ICD-SX46/SX56/SX66

SERVICE MANUAL

Ver. 1.3 2006.06

US Model
Canadian Model
ICD-SX46
AEP Model
UK Model
E Model
ICD-SX46/SX56
Chinese Model
Korean Model
ICD-SX46/SX56/SX66
Tourist Model
ICD-SX56



Photo: ICD-SX56

SPECIFICATIONS

Recording media
Built-in flash memory 128 MB (ICD-SX46) / 256 MB (ICD-SX56) / 512 MB (ICD-SX66), Stereo / Monaural recording

Recording time

Maximum recording time
The maximum recording time of all the folders is as follows. You can record messages for the maximum recording time in a single folder.

Recording modes		
ICD-SX46		
ST	5 hr.	50 min.
STLP	11 hr.	15 min.
SP	17 hr.	50 min.
LP	47 hr.	35 min.
ICD-SX56		
ST	11 hr.	45 min.
STLP	22 hr.	40 min.
SP	35 hr.	55 min.
LP	95 hr.	50 min.
ICD-SX66		
ST	23 hr.	40 min.
STLP	45 hr.	30 min.
SP	72 hr.	5 min.
LP	192 hr.	20 min.

(hr.: hours / min.: minutes)

ST: Standard play stereo recording mode
STLP: Long play stereo recording mode
SP: Standard play monaural recording mode
LP: Long play monaural recording mode

Frequency range
- ST: 60 Hz - 13,500 Hz
- STLP: 60 Hz - 6,900 Hz
- SP: 60 Hz - 7,000 Hz
- LP: 80 Hz - 3,500 Hz

Speaker Approx. 16 mm ($^{21}/_{32}$ in.) dia.

Power output
150 mW

Input / Output
- Microphone jack (minijack, stereo)
  – input for plug in power, minimum input level: 0.6 mV, 3 kilohms or lower impedance microphone
- Headphones jack (minijack, stereo)
  – output for 8 - 300 ohms headphones
- USB connector
- DC IN 3V jack (For Korean and the People's Republic of China models, this jack does not exist.)

Playback speed control
+100% to –50% (DPC)

Power requirements
Two LR03 (size AAA) alkaline batteries: 3 V DC

Dimensions (w / h / d) (not incl. projecting parts and controls)
28.0 × 120.0 × 13.8 mm ($1\,^{1}/_{8} \times 4\,^{3}/_{4} \times {}^{9}/_{16}$ in.)

Mass (incl. batteries)
64 g (2.26 oz)

Supplied accessories
Stereo headphones × 1
USB connecting cable × 1
Application Software (CD-ROM) × 1
LR03 (size AAA) alkaline batteries x 2
Carrying pouch x 1

Your dealer may not handle some of the above listed optional accessories. Please ask the dealer for detailed information.

Design and specifications are subject to change without notice.

IC RECORDER

9-879-953-04
2006F16-1

Sony Corporation
Connect Business Division
Published by Sony Techno Create Corporation

SONY®

TABLE OF CONTENTS

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270 °C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

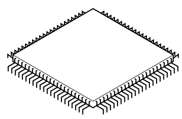
Notes on chip component replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

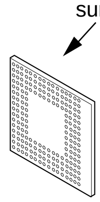
* Replacement of IC6001 and IC7003 used in this set requires a special tool.

- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different from that of conventional IC.

- Lead layouts



Lead layout of conventional IC



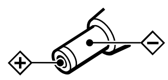
CSP (chip size package)

UNLEADED SOLDER

Boards requiring use of unleaded solder are printed with the lead-free mark (LF) indicating the solder contains no lead.
(Caution: Some printed circuit boards may not come printed with the lead free mark due to their particular size)

Using on house current (excluding the Korean and the People's Republic of China models)

Connect the AC power adaptor AC-E30HG (not supplied) to the DC IN 3V jack of the unit and to the wall outlet. Do not use any other AC power adaptor.



Polarity of the plug

LF : LEAD FREE MARK

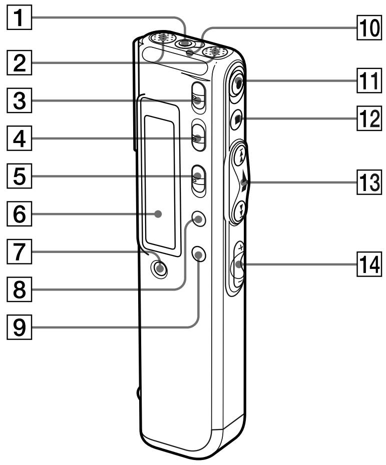
Unleaded solder has the following characteristics.

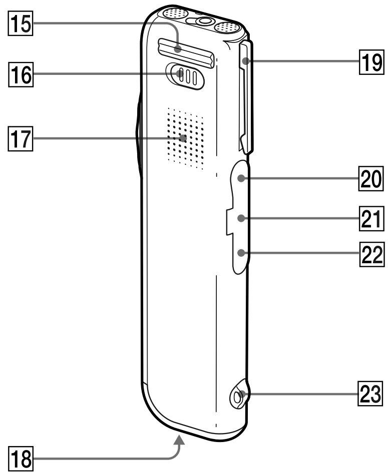
- Unleaded solder melts at a temperature about 40 °C higher than ordinary solder.
  Ordinary soldering irons can be used but the iron tip has to be applied to the solder joint for a slightly longer time.
  Soldering irons using a temperature regulator should be set to about 350 °C.
  Caution: The printed pattern (copper foil) may peel away if the heated tip is applied for too long, so be careful!
- Strong viscosity
  Unleaded solder is more viscou-s (sticky, less prone to flow) than ordinary solder so use caution not to let solder bridges occur such as on IC pins, etc.
- Usable with ordinary solder
  It is best to use only unleaded solder but unleaded solder may also be added to ordinary solder. Operating instructiondd

SECTION 1
GENERAL

This section is extracted from instruction manual.

Identifying the front and rear panels of the unit



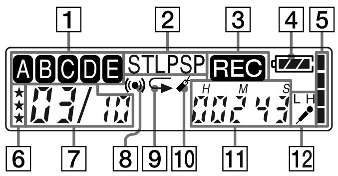


1 ∩ (headphones) jack
2 Built-in microphone
3 DIRECTNL (directional) switch
4 VOICE UP (Digital Voice Up) switch
5 DPC ON/OFF switch
6 Display window
7 ERASE button
8 DIVIDE/ (bookmark) button
9 A-B (repeat)/PRIORITY button
10 OPR (operation) indicator
11 ●REC (record) /REC PAUSE button
12 ■STOP button
13 Jog lever
FOLDER/MENU/I◀◀ (review/fast backward)/ ▶▶I (cue/fast forward)/■• ▶ (play/stop•enter)
14 VOL (volume) +/– buttons

15 Base
16 HOLD switch
17 Speaker
18 Battery compartment
19 Clip*
20 (microphone) jack
21 USB connector
22 DC IN 3V jack
(For Korean and the People's Republic of China models, this jack does not exist.)
23 Slit for a handstrap

Notes
- To prevent the clip from breaking, avoid hooking it on thick fabric, such as a pocket of a heavy coat.
- When bending down or running with the unit clipped on your pocket, be careful not to drop the unit.

Using the display window

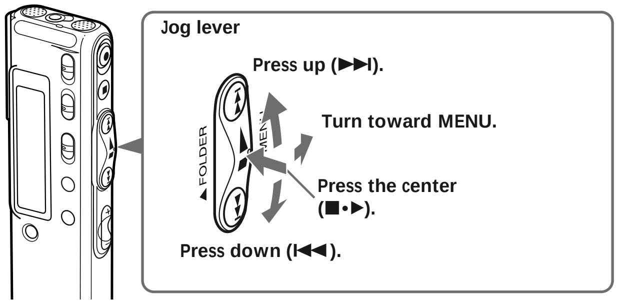


1 **Folder indication**
Displays the current folder (A, B, C, D or E).
2 **Recording mode indication**
Displays the current recording mode:
- ST: Standard play stereo recording mode
- STLP: Long play stereo recording mode
- SP: Standard play monaural recording mode
- LP: Long play monaural recording mode

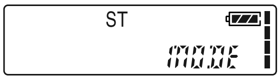
3 **REC (Recording) indicator**
4 **Remaining battery indicator**
When the AC power adaptor (not supplied) is connected, the indicator does not appear (excluding the Korean and the People's Republic of China models).
5 **Remaining memory indicator**
6 **Priority marks**
7 **Selected message number /Total message number in the folder**
8 **Alarm indicator**
Appears when the alarm is set for a message.
9 **Repeat play indicator**
Appears while a message or a specific portion (A-B) of the message is played back repeatedly.
10 **Bookmark indicator**
Appears when the bookmark is set for a message.
11 **Counter /Remaining time indication / Recording date and time indication /Current time indication**
The display selected with the DISP in the menu appears.
12 **SENS (microphone sensitivity) indication**
Displays the current microphone sensitivity:
- H (high): To record at a meeting or in a quiet/ spacious place.
- L (low): To record for dictation or in a noisy place.

Step 2: Setting the Clock

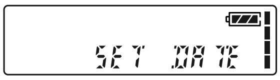
You need to set the clock to use the alarm function or record the date and time. Clock setting display appears when you insert batteries for the first time, or when you insert batteries after the unit has been without batteries for a certain period of time. In this case, proceed from step 4.



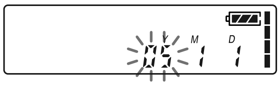
1 Turn the jog lever toward MENU.
The menu mode will be displayed in the display window



2 Press the jog lever up or down (▶▶I/I◀◀) to select "SET DATE".



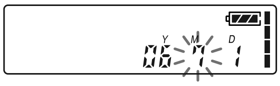
3 Press the jog lever (■•▶).
The date and time setting window is displayed. The year digits will flash.



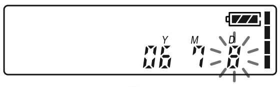
4 Set the date.

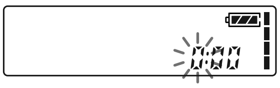
① Press the jog lever up or down (▶▶I / I◀◀) to select the digits of the year.

② Press the jog lever (■•▶).
The month digits will flash.



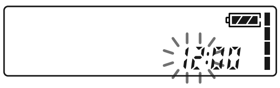
③ Set the month and day in sequence, then press the jog lever (■•▶).
The hour digits will flash.





5 Set the time.

① Press the jog lever up or down (▶▶I / I◀◀) to select the digits of the hour.

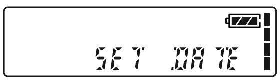


② Press the jog lever (■•▶).
The minute digits will flash.



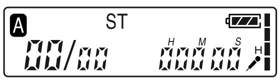
③ Set the minute.

④ Press the jog lever (■•▶).
The menu mode will be displayed again.



Note
If you do not press the jog lever (■•▶) for more than one minute, the clock setting mode is cancelled and the window will return to normal display.

6 Turn the jog lever toward MENU.
The window will return to normal display.



☞ If the unit is left unused for more than 3 seconds in the stop mode after the clock is set, the display will show the current time.

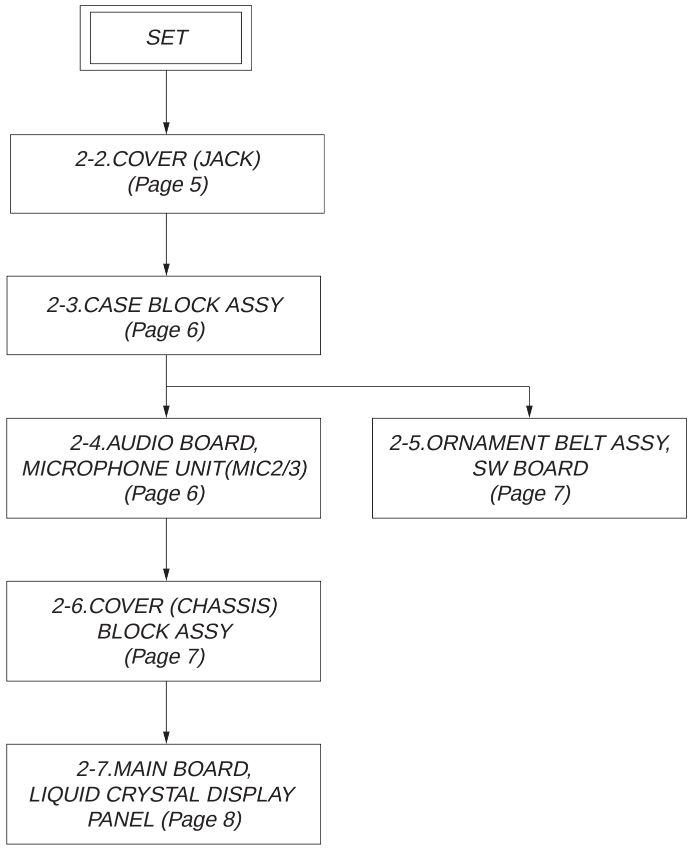


Note on setting the clock
Set the clock while the unit is in the stop mode.

SECTION 2
DISASSEMBLY

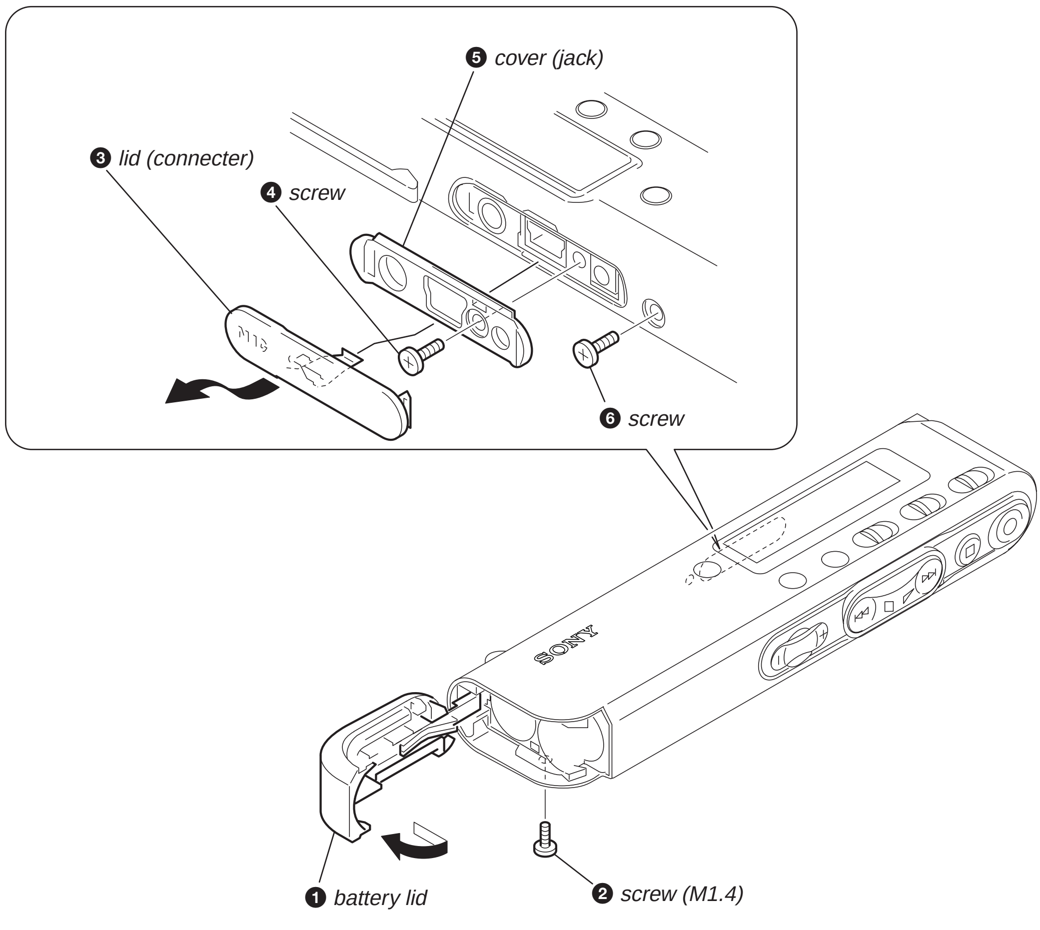
Note: Disassemble the unit in the order as shown below.

2-1. DISASSEMBLY FLOW

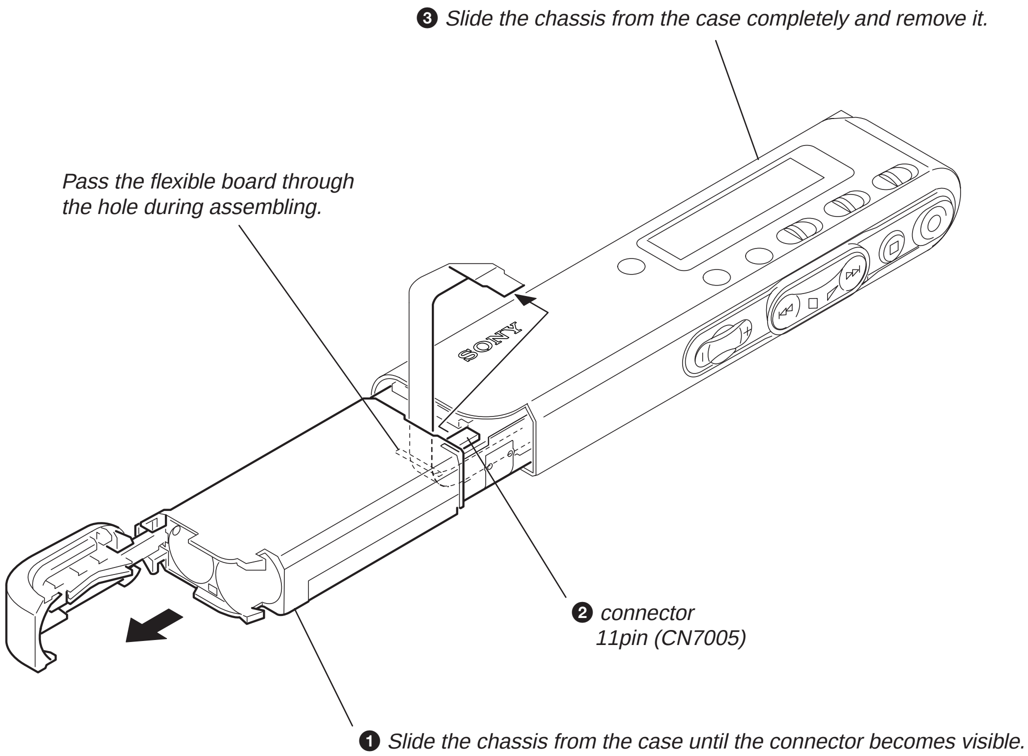


Note: Follow the disassembly procedure in the numerical order given.

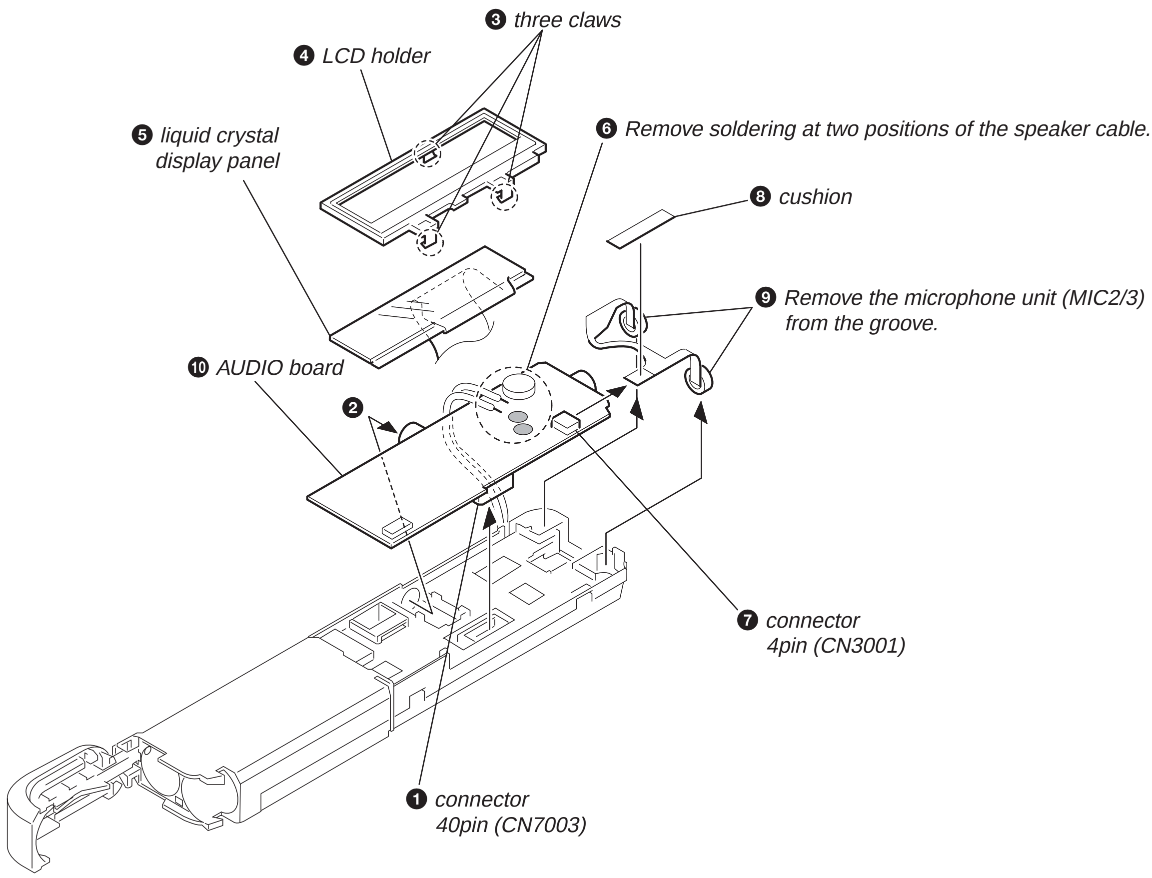
2-2. COVER (JACK)



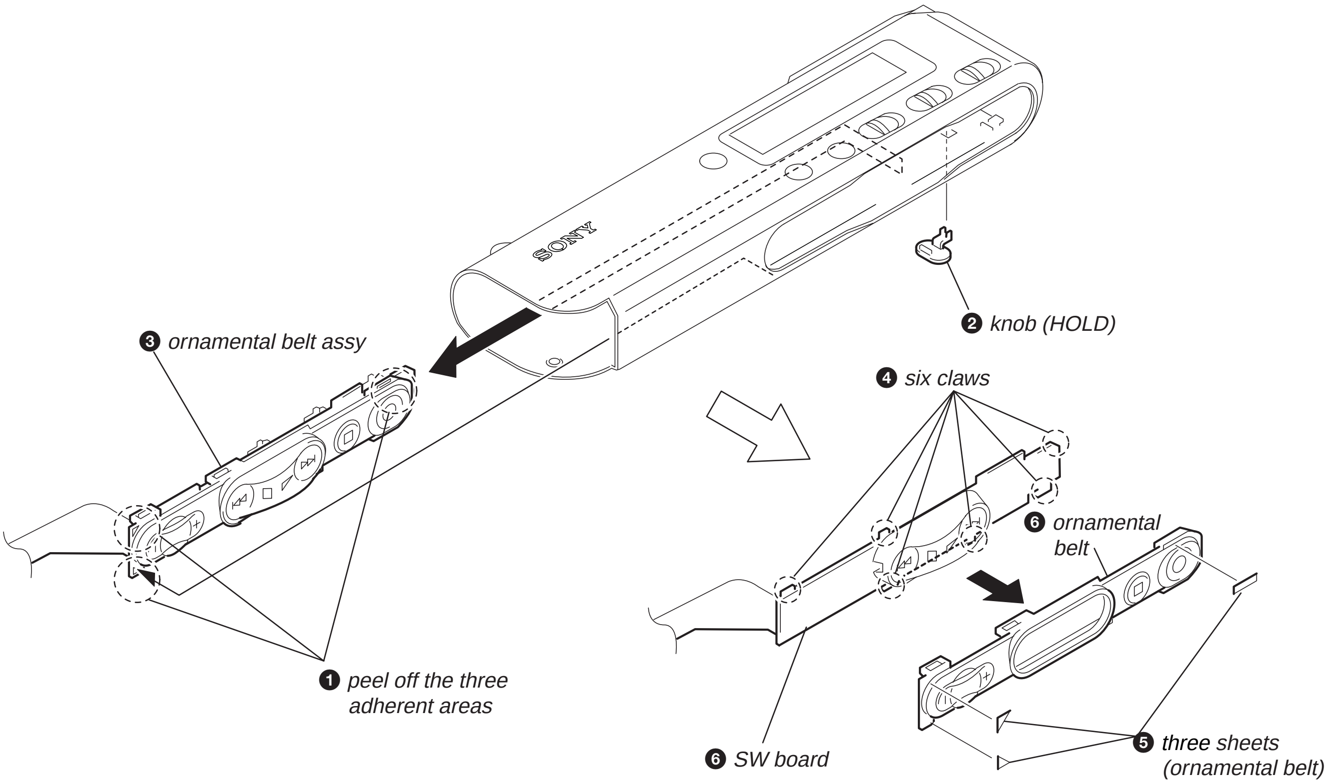
2-3. CASE BLOCK ASSY



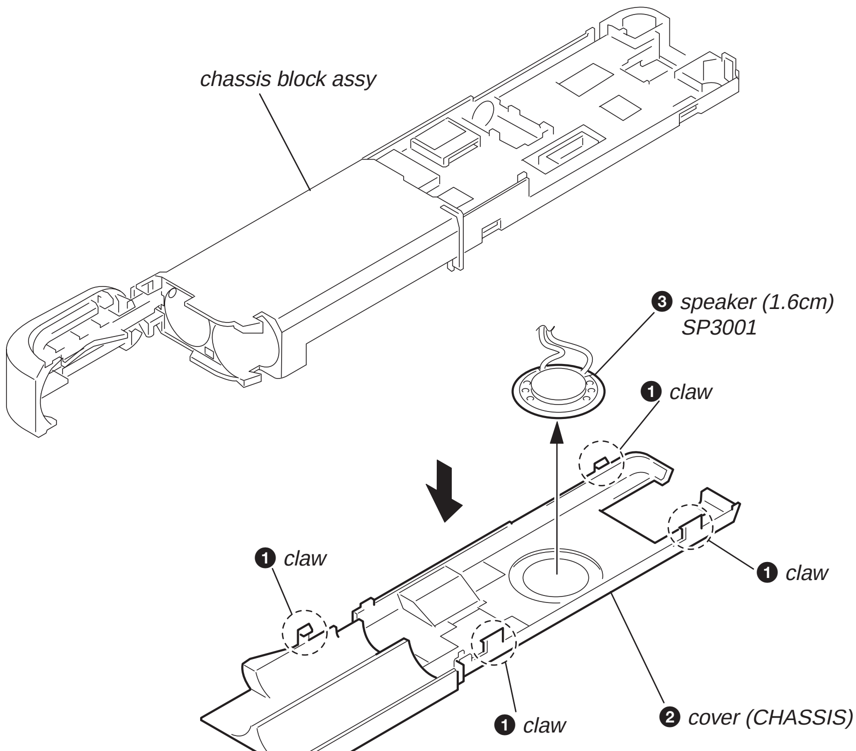
2-4. AUDIO BOARD, MICROPHONE UNIT (MIC2/3)



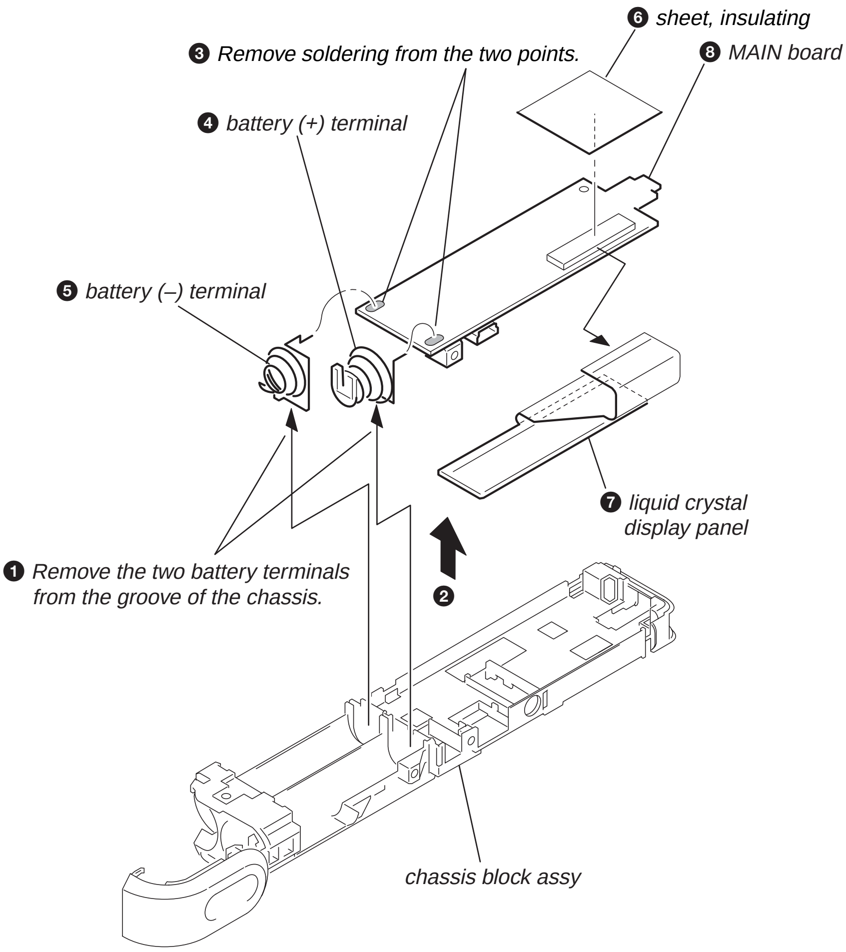
2-5. ORNAMENT BELT ASSY, SW BOARD



2-6. COVER (CHASSIS) BLOCK ASSY



2-7. MAIN BOARD, LIQUID CRYSTAL DISPLAY PANEL



SECTION 3
TEST MODE

[Setting Method of the Test Mode]

To enter the test mode, turn on the [HOLD] switch while pressing the [■] key and [VOL+] key at the same time with the power on.

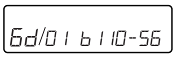
[Exiting Method of the Test Mode]

Exit the test mode by turning off the power.

[Initial Status of the Test Mode]

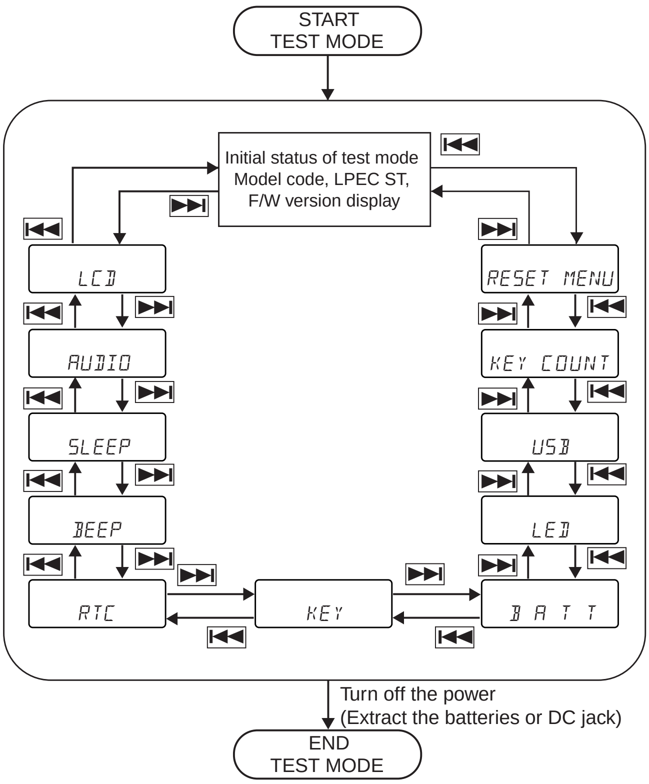
When the test mode is set, the LCD display appears as shown below.

LCD display (Example)



6d ⟶ Iris(DSP) version : 6d
01 ⟶ LPEC ST version : 01
b110 ⟶ SakuraR(CPU) version : 1.10
(In α version or β version, A or B is displayed)
-56 ⟶ Model code : SX56

[Flow Chart of the Test Mode]

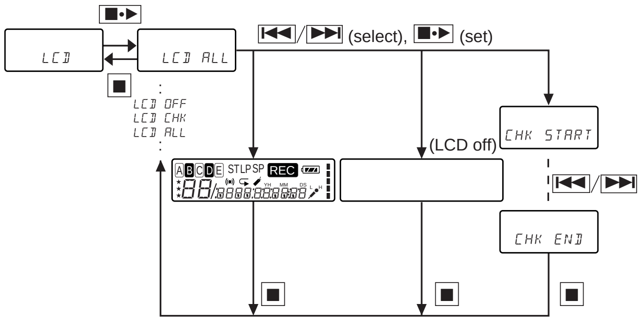


[Operation in the Test Mode]

After entering the test mode, you can move within the test menu by pressing the [⏮]/[⏭] key. You can move to the submenu by pressing the [■•▶] key. Then each test mode can be executed.

1. LCD test

- LCD is tested of all light-on and all light-off.

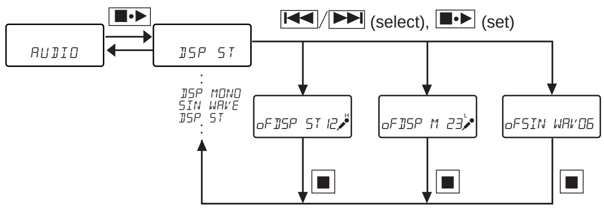


2. Audio test

Perform the through-playback and sine wave output.

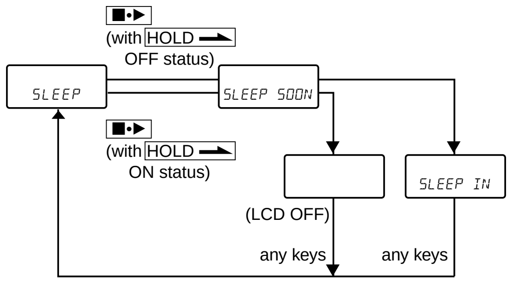
- Contents of the submenu
  - DSP ST: DSP STEREO through mode
  - DSP MO: DSP MONO through mode
  - SIN: 1 kHz sine wave output mode
- Select the microphone sensitivity with the [A-B ⮌] switch.
  H⟶M⟶L⟶H⟶M⟶ ...
- The VOR detection operation can be checked by the LED.
  Sound : The red LED is turned on. No sound: The red LED is turned off.
- MUTE can be set to "ON" or "OFF" with the [ERASE] key.
- The sound volume can be adjusted with the [VOL+] key or [VOL–] key during the audio test except the MUTE mode.
- In the directional microphone selection, ON/OFF of the DIRECTNL switch is performed with the [DIVIDE] key.
  DIRECTNL switch ON : The green LED is turned on.
  OFF : The green LED is turned off.
- In the audio test mode the operation is performed according to JACK detection.
- The microphone sensitivity, sound volume and MUTE (on/off) are displayed on the LCD.
- The microphone sensitivity selection and the VOR test are effective in the through-playback mode.
- The directional microphone selection is effective in the DSP MONO through mode.

DSP STEREO through mode / MIC : M / MUTE : ON / VOL-LEVEL : 12
⟶ "M / on / 12 / DSP ST"
DSP MONO through mode / MIC : H / MUTE : OFF / VOL-LEVEL : 23
⟶ "H / oF / 23 / DSP MO"
1k sine wave output mode / MUTE : ON / VOL-LEVEL : 06 t "on / 06 / SIN"



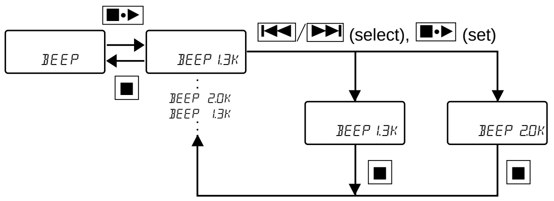
3. Sleep test

- Pressing the [■•▶] key causes the set to enter the sleep state.
- When the [HOLD ▬] switch is ON, the LCD is turned off. When OFF, the LCD is turned on.
- Press any keys to exit the sleep state.



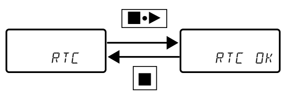
4. Beep test

- Beep sound of 1.3 kHz or 2 kHz is output.



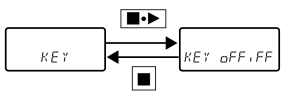
5. RTC test

- Perform the function test of the RTC and EEPROM.
  (1) RTC EEPROM test
  Confirmation of writing, reading (verifying) and erasing of arbitrary data with the specified registers.
  (2) RTC clock function test
  Confirmation that RTC updates the time to the microcomputer at one second interval.
- OK, NG judgement is performed to the test result.
  When NG, it is displayed which device RTC or EEPROM becomes NG.
  (All OK : "RTC OK" / RTC NG : "RTC BAD" / EEPROM NG : "EEP BAD")



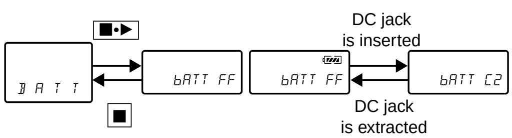
6. Key entry test

- When the any key is pressed, the entry key and the A/D converted value (hexadecimal) of the two channel keys are displayed.
- When the [■] key is pressed, the A/D value of the key is displayed while the key is depressed. When the key is released, the screen returns to the test menu.



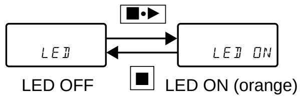
7. Battery remaining power and DC IN test

- The detected A/D value (hexadecimal) of the battery remaining power is displayed. When DC jack is inserted, the battery mark on the LCD is turned off.



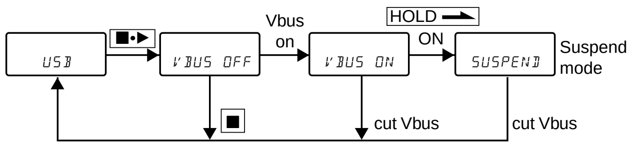
8. LED test

- LEDs (OPR: red and green) are all turned on.



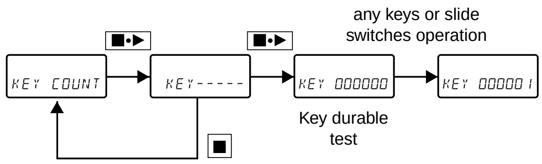
9. USB test

- When the menu starts the USB self-check, either presence or absence of the Vbus is judged.
  (Vbus is present: "ON VBUS", Vbus is absent: "OFF VBUS")
- The USB driver always works regardless of presence or absence of the USB signal only when Vbus is available during the USB test. At this time, turning on [HOLD ▬] causes the set to move to the suspend state. Turning off the Vbus causes the set to return to the test menu.
- In the menumode if the Vbus is supplied, any key will not work. Therefore the Vbus will be supplied after surely pressing the [■•▶] key.



10. Key durable test

- Pressing the [■•▶] key makes the count to "------" and sets test standby status.
  Once more pressing the [■•▶] key makes the count to "000000" and sets the key durable test.
  In this mode any key input and slide switch operation are counted and the number is displayed.
  Turn off the power to exit this mode.

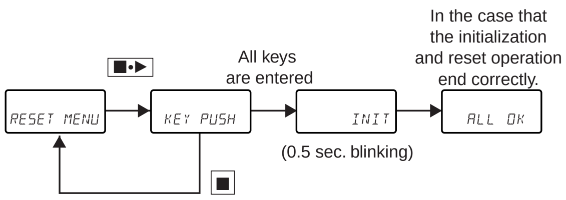


11. Menu reset

- Pressing the [■•▶] key causes the set to enter the menu initialization standby state.
- When the following keys are all entered, the EEPROM initialization (returning setting in the menu and user name to default value) and formatting process (deleting all message files in the flash memory) are executed. At the same time, the WakeUp signal is checked, too.

Check keys: [VOL–], [VOL+], [A-B ⊂], [ERASE], [DIVIDE], [DPC] ON, [DPC] OFF, [⏮], [■•▶], [⏭], [FOLDER], [MENU], [■], [● REC], [HOLD ▬] ON, [HOLD ▬] OFF, [DIRECTNL] ON, and [DIRECTNL] OFF, [VOICE UP] ON, and [VOICE UP] OFF

- If all tests end in success, "ALL OK" is displayed. If initialization in the EEPROM is NG, "INIT. NG" appears.
- Turn off the power to exit the test mode.



SECTION 4
DIAGRAMS

Note on Schematic Diagrams:
- All capacitors are in µF unless otherwise noted. (p: pF) 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal tolerance.
- ▭ : panel designation.
- ▬ : B+ Line.
- Power voltage is dc 3V and fed with regulated dc power supply from DC IN jack (J5001).
- Voltages and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : PLAY
  [ ] : REC
  * : Impossible to measure
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : PB
  ⇨⇨ : REC

* Replacement of IC6001 and IC7003 used in this set requires a special tool.
- The voltage and waveform of CSP (chip size package) cannot be measured, because its lead layout is different from that of conventional IC.

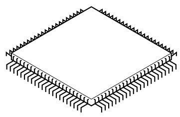
Note on Printed Wiring Boards:
- ——— : parts extracted from the conductor side.
- ▬ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

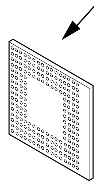
Caution:	
Pattern face side: (Side B)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Side A)	Parts on the parts face side seen from the parts face are indicated.

* Replacement of IC6001 and IC7003 used in this set requires a special tool.

- Lead layouts



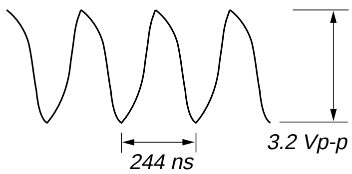
Lead layout of conventional IC



CSP (chip size package)

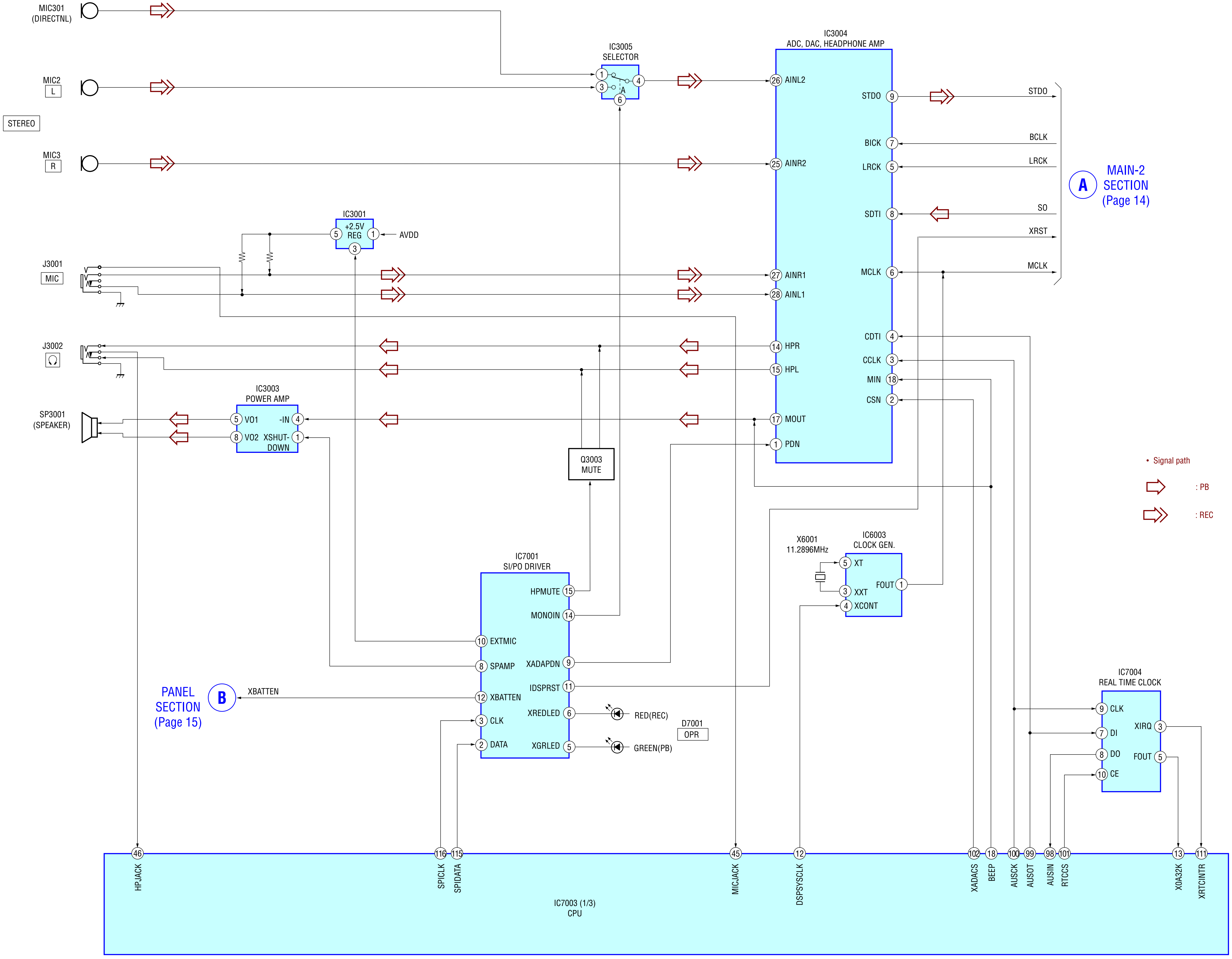
- **Waveform**

① IC7003 ⑩⑧ (XTAL)

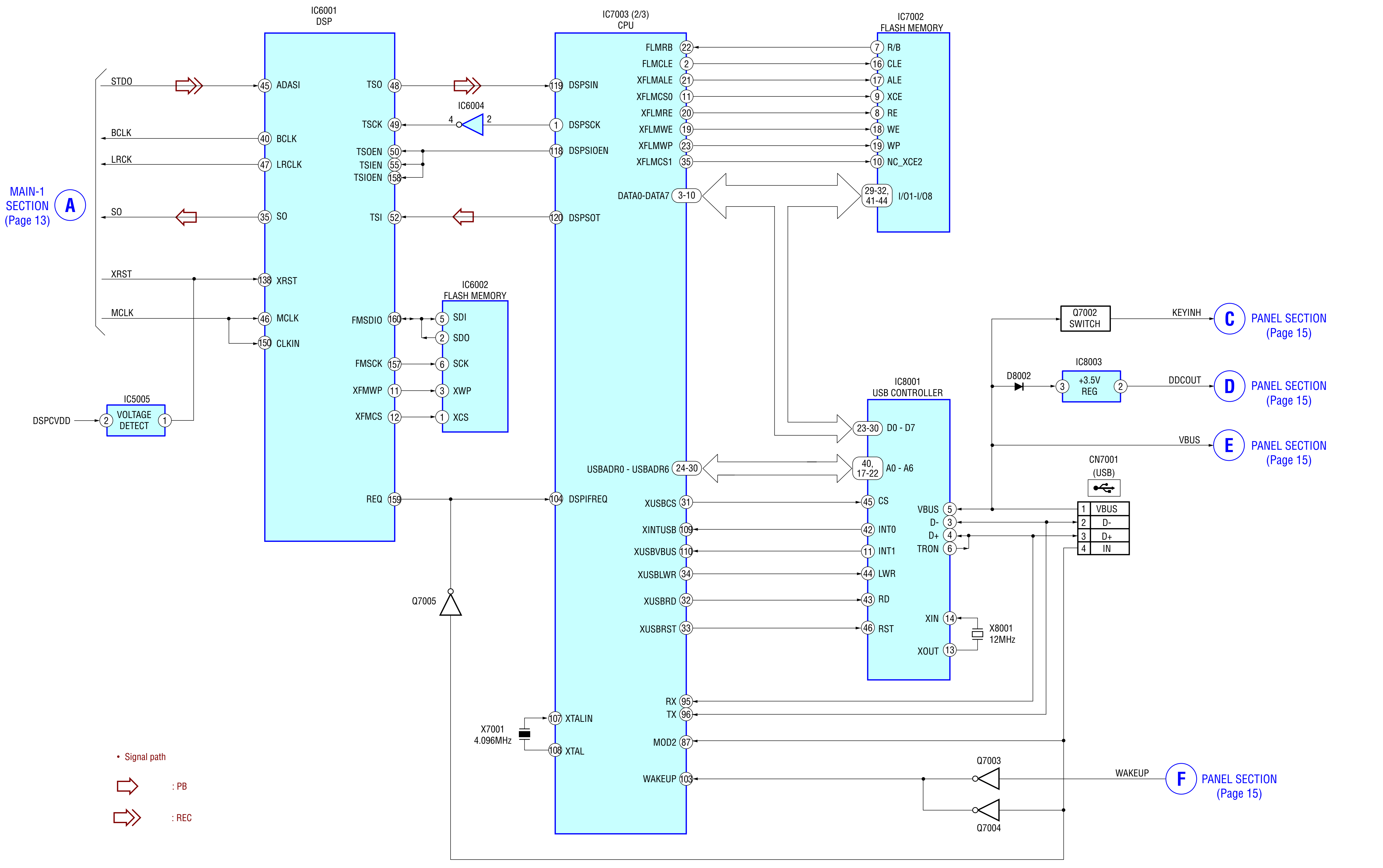


1 V/DIV, 100 ns/DIV

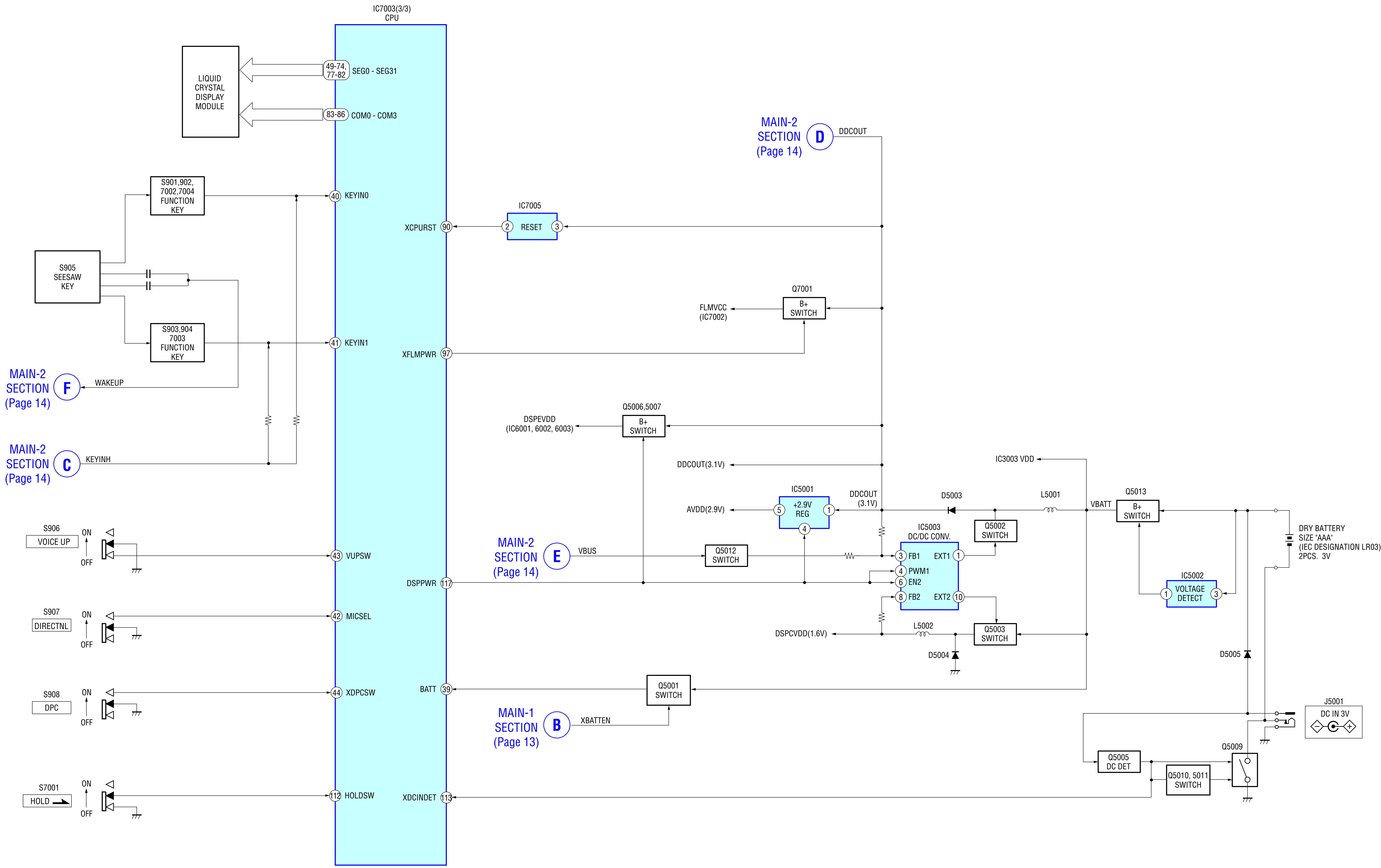
4-1. BLOCK DIAGRAM – MAIN SECTION-1 –



4-2. BLOCK DIAGRAM – MAIN SECTION-2 –

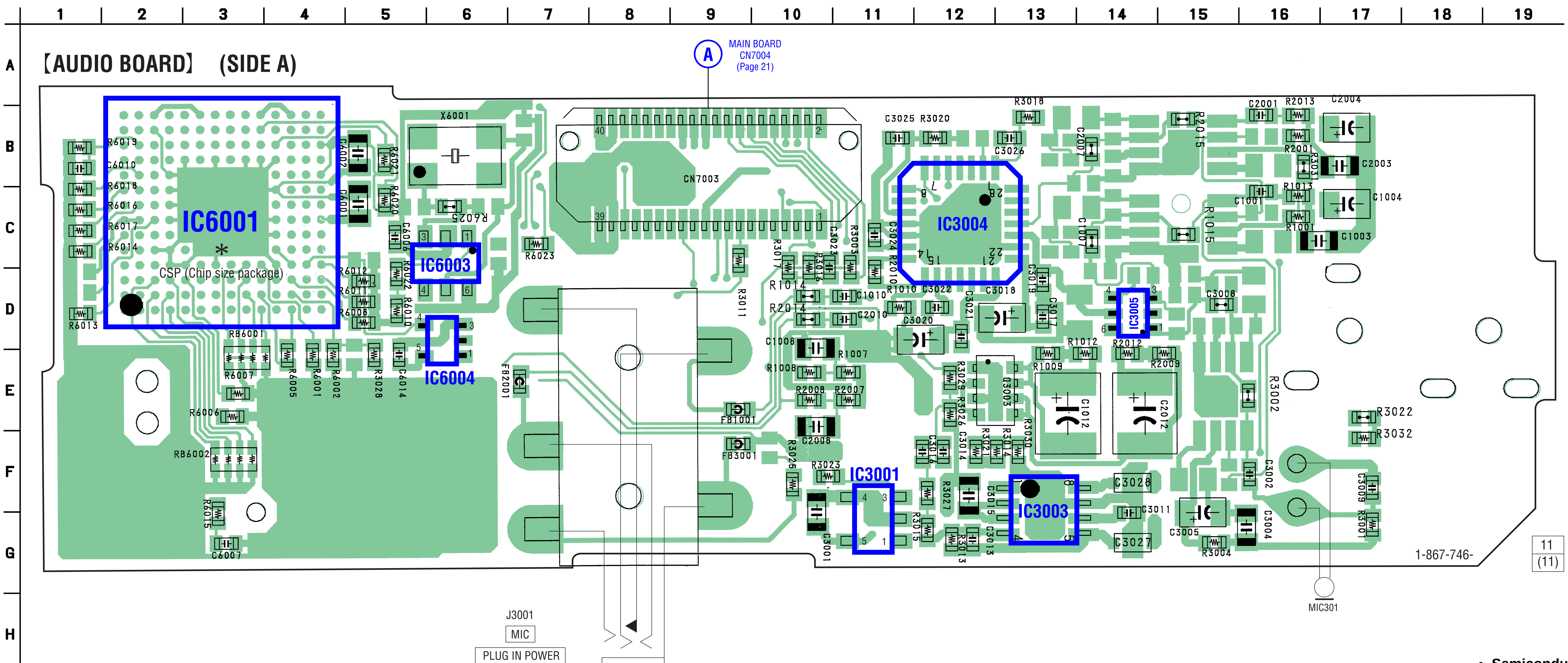


4-3. BLOCK DIAGRAM – PANEL SECTION –



4-4. PRINTED WIRING BOARD – AUDIO BOARD (SIDE A) –

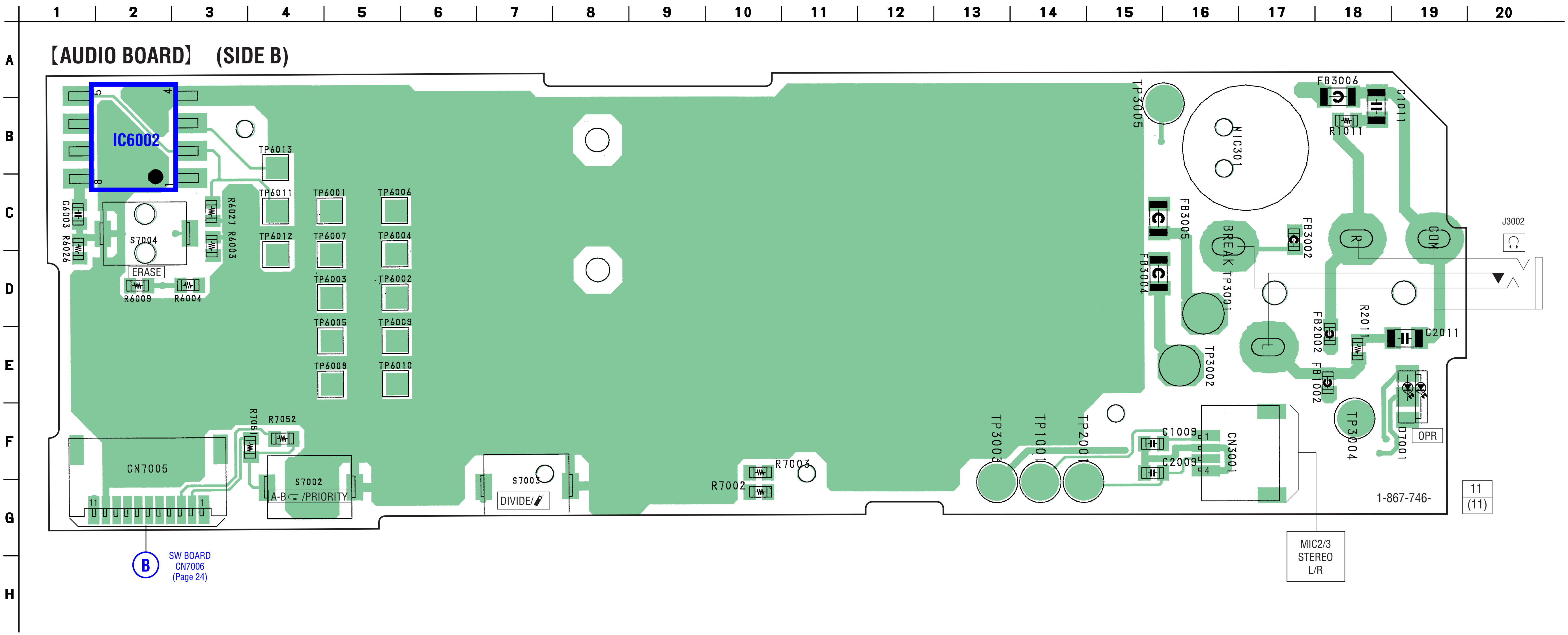
• :Uses unleaded solder.



• **Semiconductor Location**

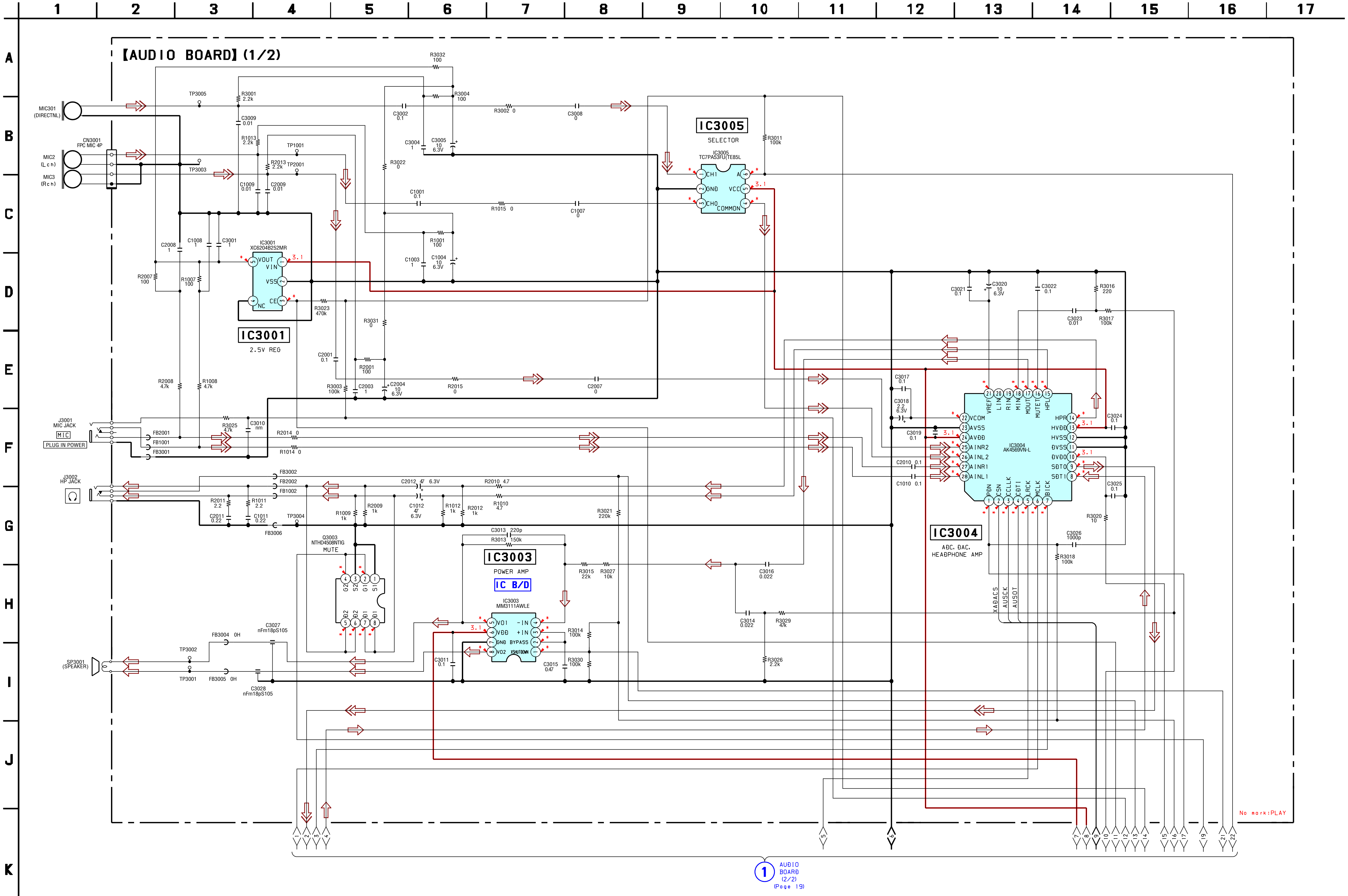
Ref. No.	Location
IC3001	F-11
IC3003	F-13
IC3004	C-12
IC3005	D-14
IC6001	C-3
IC6003	C-6
IC6004	D-6
Q3003	E-13

4-5. SCHEMATIC DIAGRAM – AUDIO BOARD (SIDE B) – • :Uses unleaded solder.



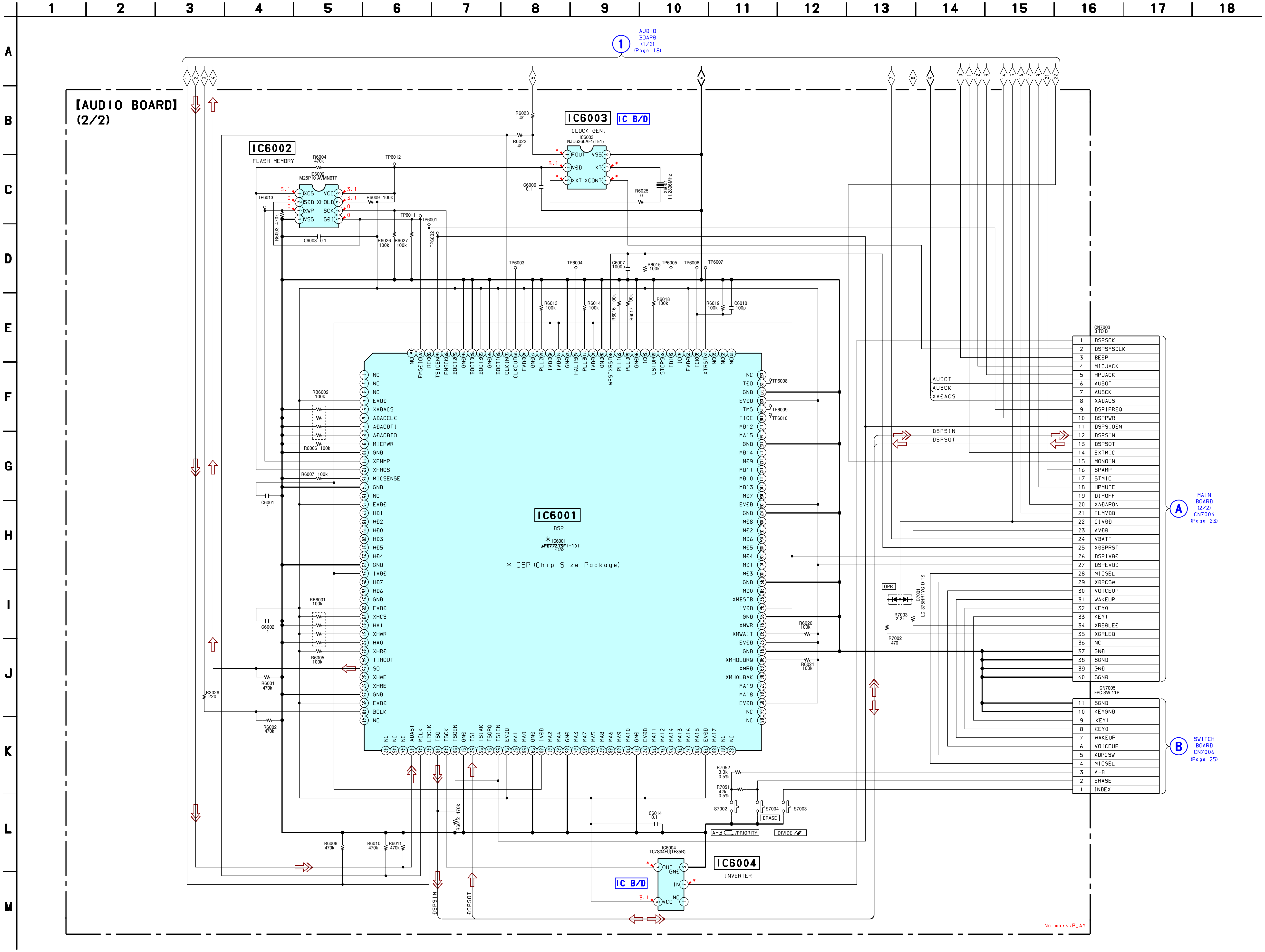
4-6. SCHEMATIC DIAGRAM – AUDIO BOARD (1/2) –

• See page 26 for IC Block Diagrams.



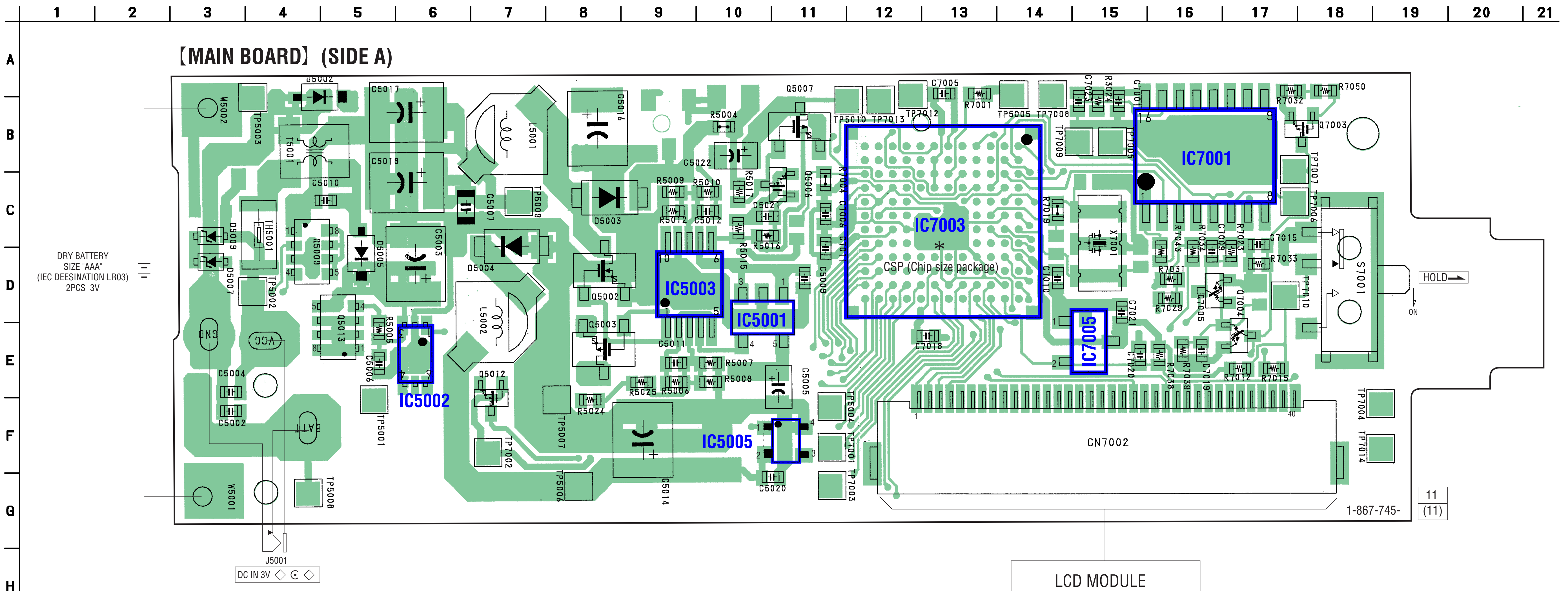
4-7. SCHEMATIC DIAGRAM – AUDIO BOARD (2/2) –

• See page 26 for IC Block Diagrams. • See page 19 for IC Pin Function Description.



4-8. PRINTED WIRING BOARD – MAIN BOARD (SIDE A) –

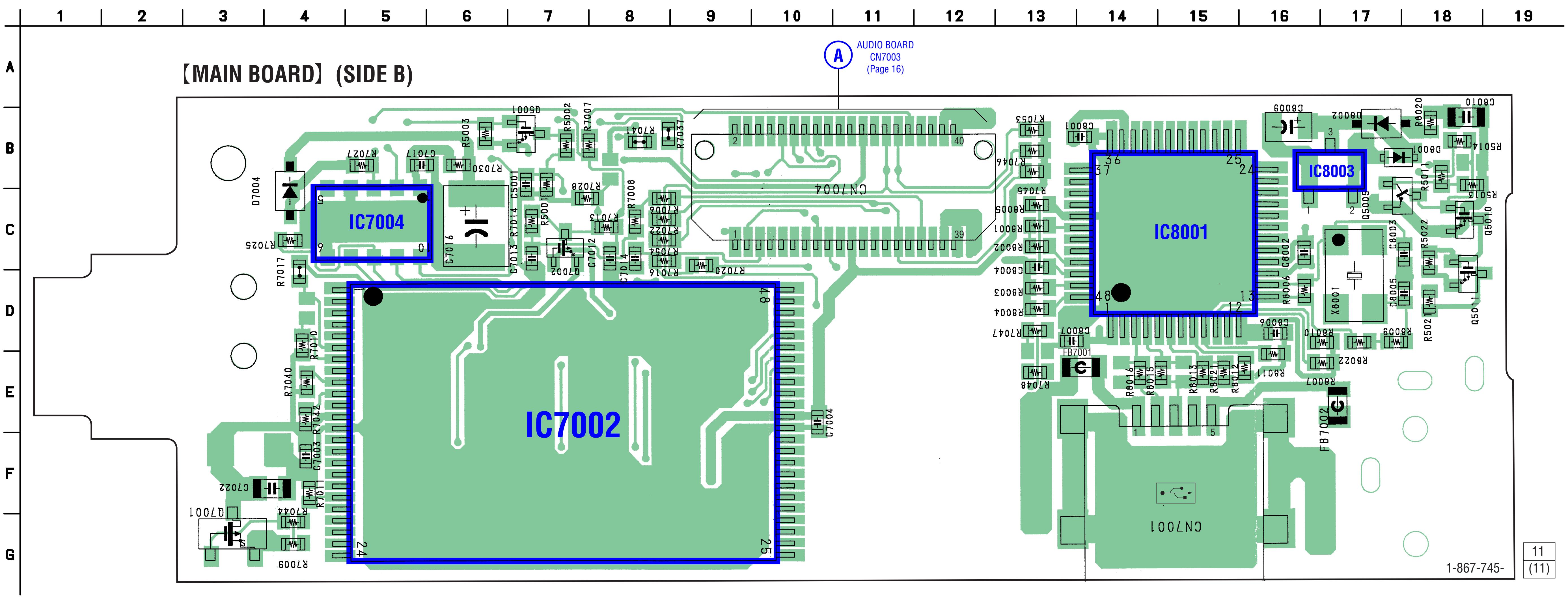
• LF :Uses unleaded solder.



• **Semiconductor Location**

Ref. No.	Location
D5002	A-4
D5003	C-8
D5004	D-7
D5005	D-5
D5007	D-3
D5009	C-3
IC5001	D-10
IC5002	E-6
IC5003	D-9
IC5005	F-11
IC7001	B-16
IC7003	C-13
IC7005	E-15
Q5002	D-8
Q5003	E-8
Q5006	C-11
Q5007	B-11
Q5009	D-4
Q5012	E-7

4-9. PRINTED WIRING BOARD – MAIN BOARD (SIDE B) – • :Uses unleaded solder.

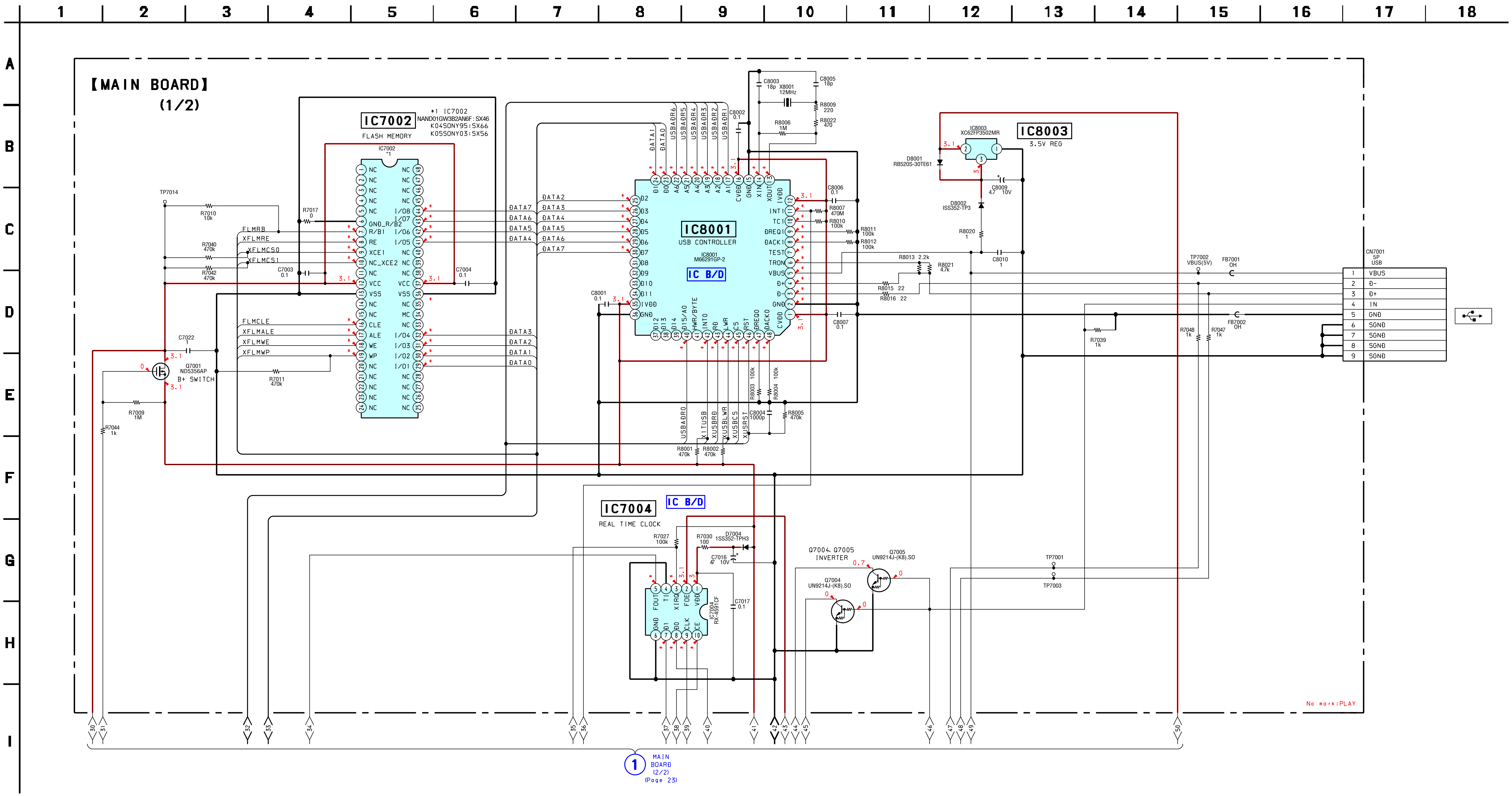


• **Semiconductor Location**

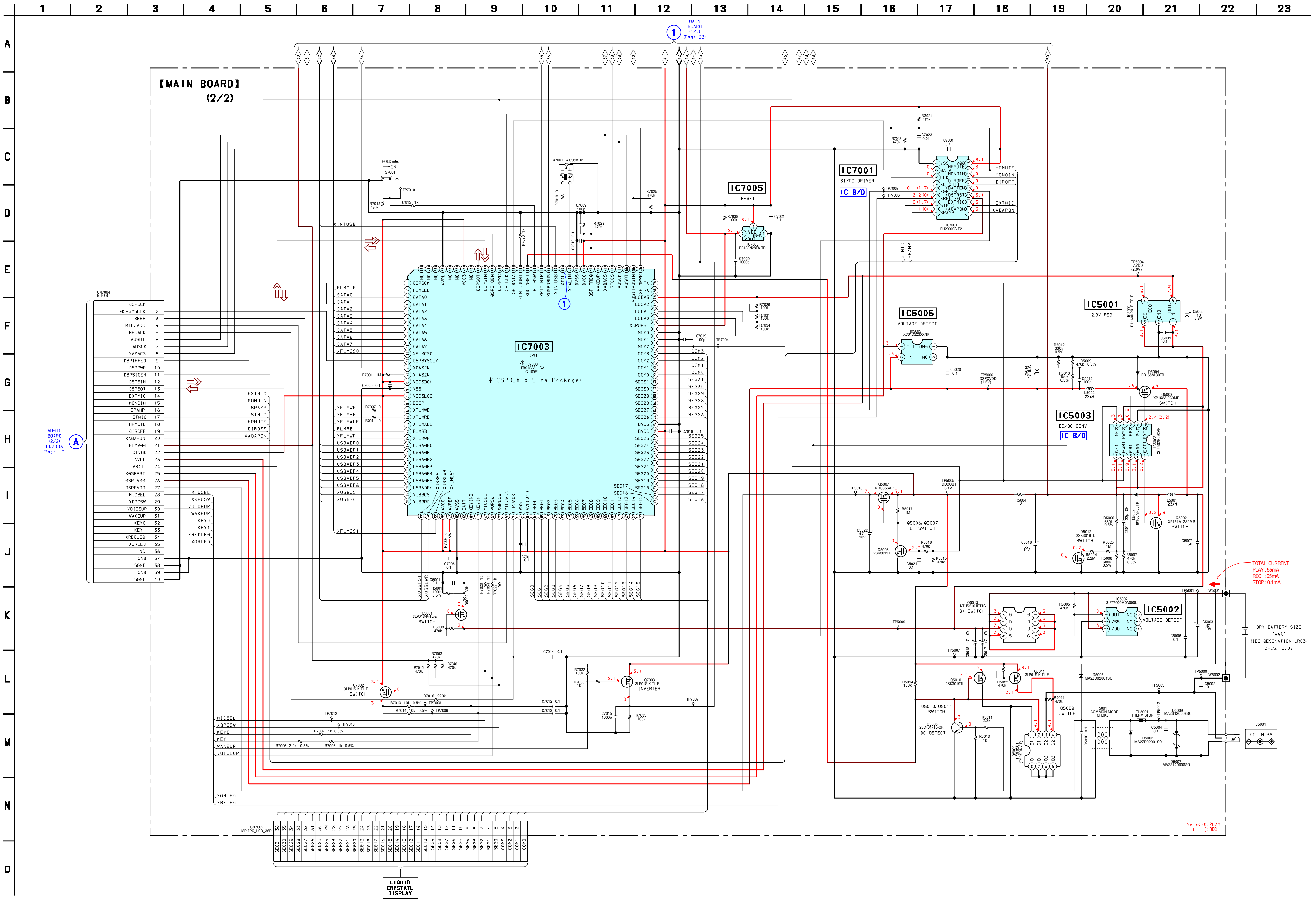
Ref. No.	Location
D7004	C-4
D8001	B-17
D8002	B-17
IC7002	E-7
IC7004	C-5
IC8001	C-15
IC8003	B-17
Q5001	B-7
Q5005	C-17
Q5010	C-18
Q5011	D-18
Q7001	G-3
Q7002	C-7

4-10. SCHEMATIC DIAGRAM – MAIN BOARD (1/2) –

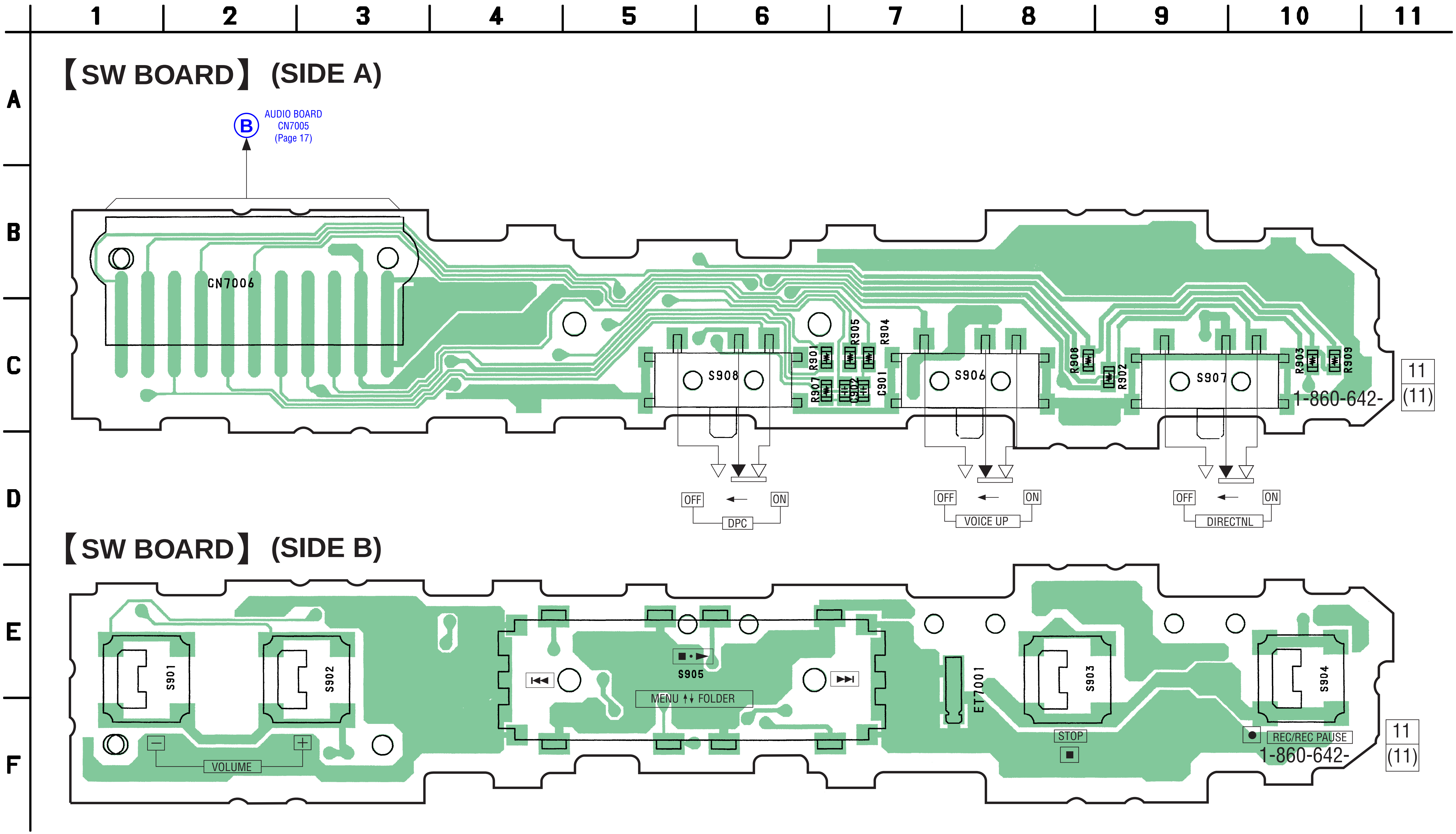
• See page 26 for IC Block Diagrams.



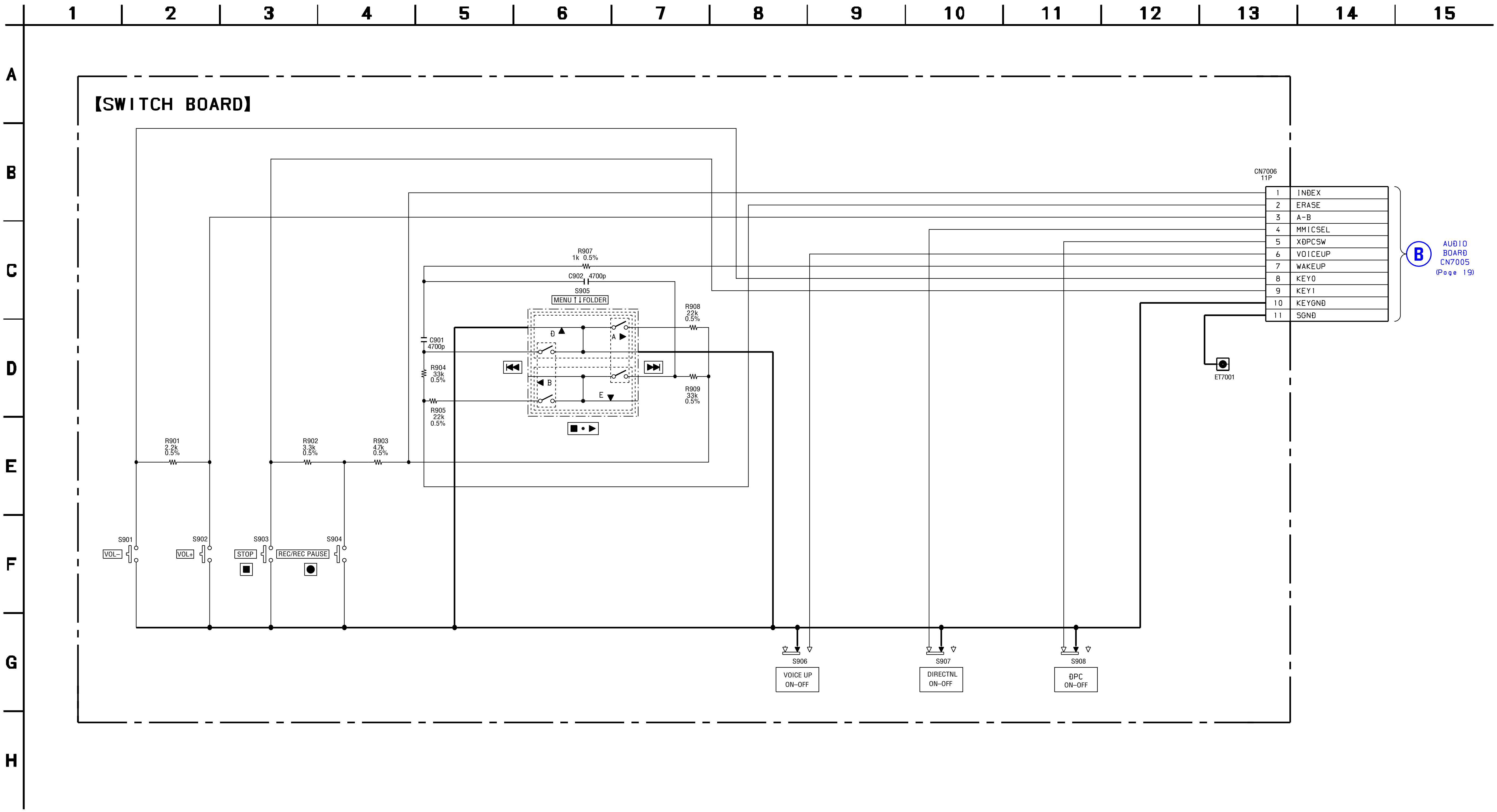
4-11. SCHEMATIC DIAGRAM – MAIN BOARD (2/2) – • See page 26 for IC Block Diagrams. • See page 12 for Waveform. • See page 31 for IC Pin Function Description.



4-12. PRINTED WIRING BOARD – SW BOARD – • :Uses unleaded solder.



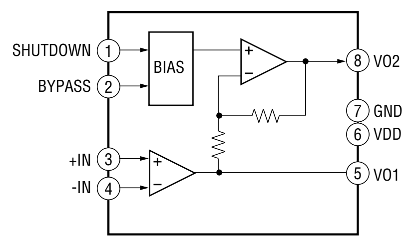
4-13. SCHEMATIC DIAGRAM – SW BOARD –



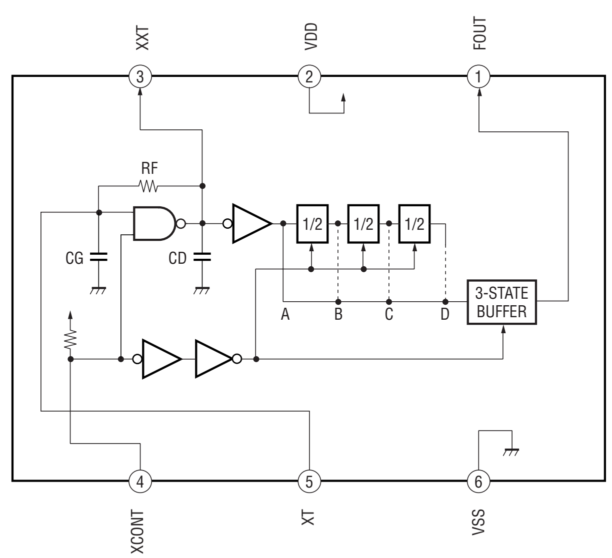
- **IC Block Diagrams**

– AUDIO Board –

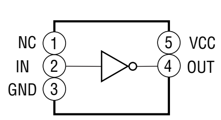
IC3003 MM3111AWLE



IC6003 NJU6366AF1 (TE1)

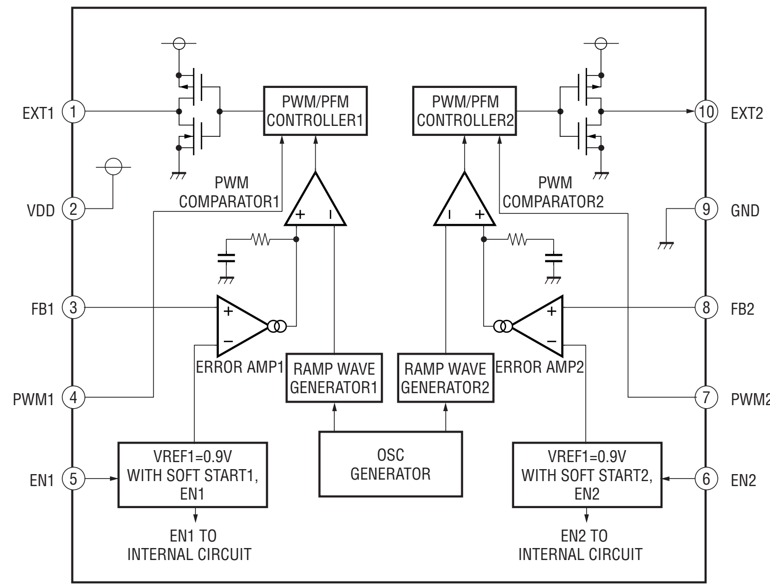


IC6004 TC7S04FU(TE85R)

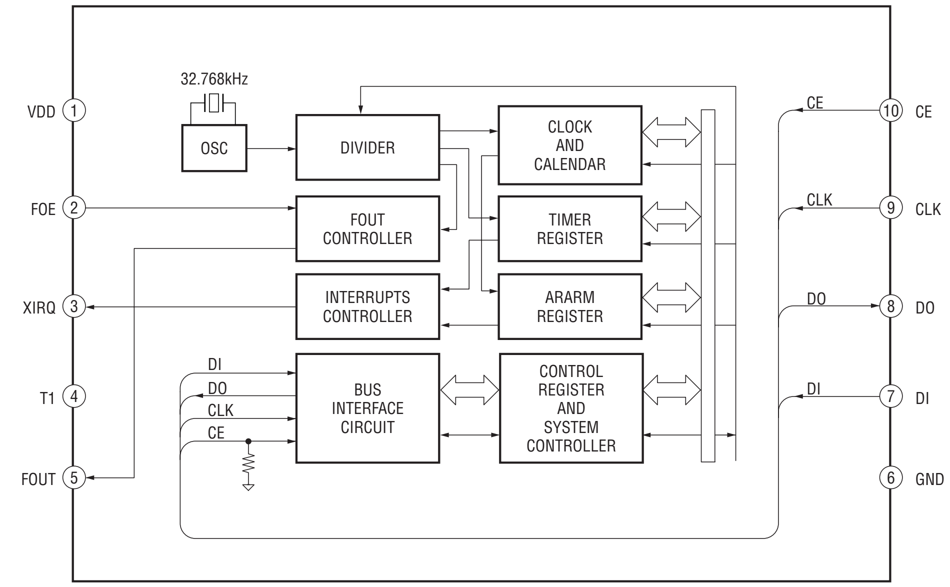


– MAIN Board –

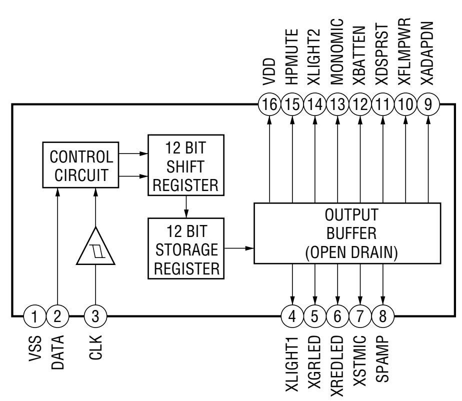
IC5003 XC9502B092AR



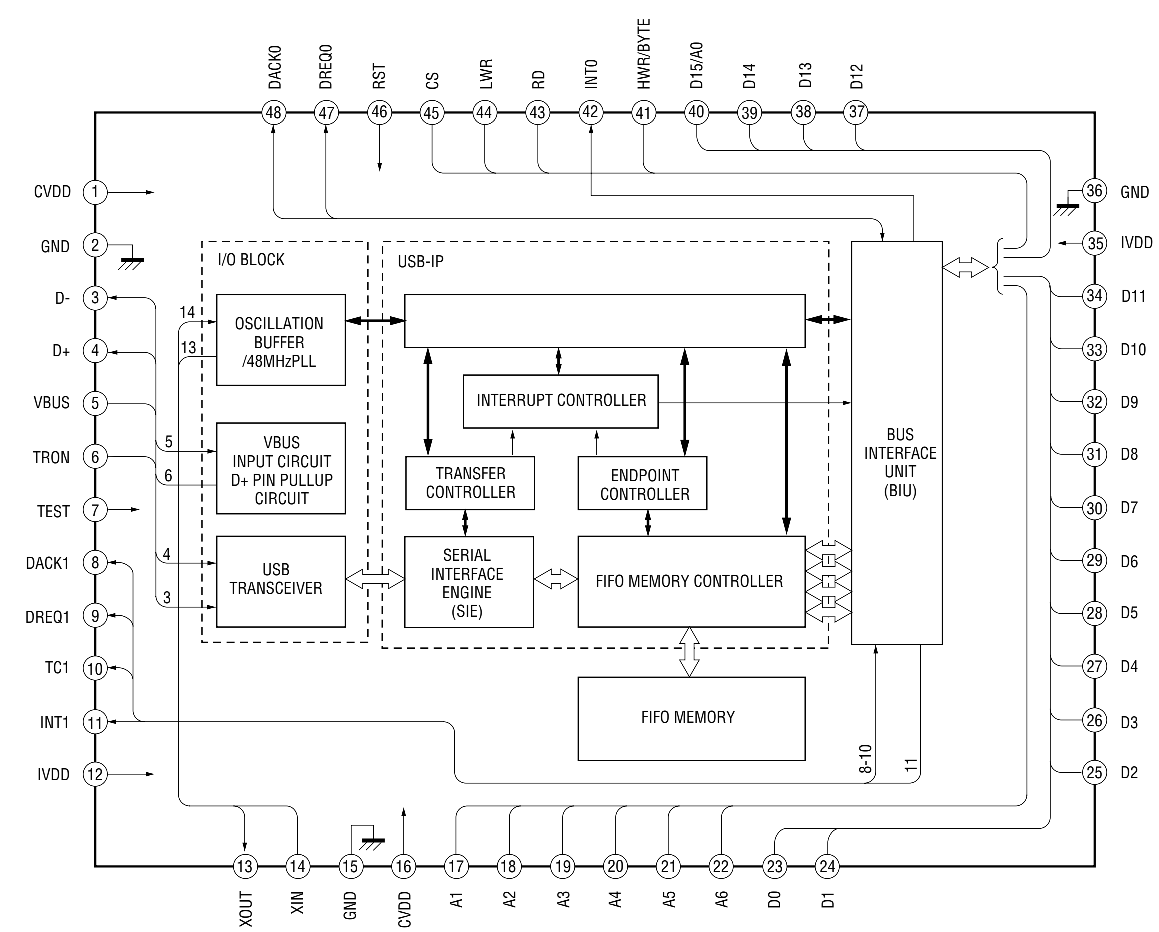
IC7004 RX-4591CF



IC7001 BU2090FS-E2



IC8001 M66291GP-2



- **IC Pin Function Description**

AUDIO Board IC6001 uPD77213F1-101-DA2 (DSP)

Pin No.	Pin Name	I/O	Description
1 to 3	NC	—	Not used
4	EVDD	—	I/O power supply (3.1V)
5	XADACS	O	AD/DA chip select (Not used) (fixed at “L”)
6	ADACCLK	I/O	AD/DA clock (Not used) (fixed at “L”)
7	ADACDTI	I	AD/DA data input (Not used) (fixed at “L”)
8	ADACDTO	O	AD/DA data output (Not used) (fixed at “L”)
9	MICPWR	O	Microphone power supply control (Not used) (fixed at “L”)
10	GND	—	Ground terminal
11	XFMWP	O	Boot flash ROM write protect
12	XFMCS	O	Boot flash ROM chip select
13	MICSENSE	O	Micropone sensitivity select (Not used) (fixed at “L”)
14	GND	—	Ground terminal
15	NC	—	Not used
16	EVDD	—	I/O power supply (3.1 V)
17	HD1	I/O	Host data bus (Not used)
18	HD2	I/O	Host data bus (Not used)
19	HD0	I/O	Host data bus (Not used)
20	HD3	I/O	Host data bus (Not used)
21	HD5	I/O	Host data bus (Not used)
22	HD4	I/O	Host data bus (Not used)
23	GND	—	Ground terminal
24	IVDD	—	Core power supply (1.6 V)
25	HD7	I/O	Host data bus (Not used)
26	HD6	I/O	Host data bus (Not used)
27	GND	—	Ground terminal
28	EVDD	—	I/O power supply (3.1 V)
29	XHCS	I	Host chip select (Pull-up) (fixed at “H”)
30	HA1	I	Host data access 1 (Pull-down) (fixed at “L”)
31	XHWR	I	Host write (Pull-up) (fixed at “H”)
32	HA0	I	Host data access 0 (Pull-down) (fixed at “L”)
33	XHRD	I	Host read (Pull-up) (fixed at “H”)
34	TIMOUT	O	Not used
35	SO	O	Serial data output
36	XHWE	O	Host write enable (Not used)
37	XHRE	O	Host read enable (Not used)
38	GND	—	Ground terminal
39	EVDD	—	I/O power supply (3.1 V)
40	BCLK	I/O	Bit clock
41 to 44	NC	—	Not used
45	ADASI	I	ADA serial data input
46	MCLK	I	Master clock
47	LRCLK	I/O	Clock for L-ch and R-ch (H: L-ch, L: R-ch)
48	TSO	O	Time sharing serial data output
49	TSCK	I	Time sharing serial clock input
50	TSOEN	I	Time sharing serial output enable
51	GND	—	Ground terminal
52	TSI	I	Time sharing serial data input

Pin No.	Pin Name	I/O	Description
53	TSIAK	O	Time sharing serial input response (Not used)
54	TSORQ	O	Time sharing serial output request (Note used)
55	TSIEN	I	Time sharing serial input enable
56	EVDD	—	I/O power supply (3.1 V)
57	MA1	O	Memory address bus 1 (Not used)
58	MA0	O	Memory address bus 0 (Not used)
59	GND	—	Ground terminal
60	IVDD	—	Core power supply (1.6 V)
61	MA2	O	Memory address bus 2 (Not used)
62	MA4	O	Memory address bus 4 (Not used)
63	GND	—	Ground terminal
64	MA3	O	Memory address bus 3 (Not used)
65	MA7	O	Memory address bus 7 (Not used)
66	MA5	O	Memory address bus 5 (Not used)
67	MA8	O	Memory address bus 8 (Not used)
68	MA6	O	Memory address bus 6 (Not used)
69	MA9	O	Memory address bus 9 (Not used)
70	MA10	O	Memory address 10 (Not used)
71	GND	—	Ground terminal
72	EVDD	—	I/O power supply (3.1 V)
73	MA11	O	Memory address 11 (Not used)
74	MA12	O	Memory address 12 (Not used)
75	MA14	O	Memory address 14 (Not used)
76	MA13	O	Memory address 13 (Not used)
77	MA16	O	Memory address 16 (Not used)
78	MA15	O	Memory address 15 (Not used)
79	EVDD	—	I/O power supply (3.1 V)
80	MA17	O	Memory address 17 (Not used)
81 to 84	NC	—	Not used
85	EVDD	—	I/O power supply (3.1 V)
86	MA18	O	Memory address 18 (Not used)
87	MA19	O	Memory address 19 (Not used)
88	XMHOLDAK	O	Memory bus hold response (Not used)
89	XMRD	O	Memory read-out (Not used)
90	XMHOLDRQ	I	Memory bus hold request (Pull-up) (fixed at “H”)
91	GND	—	Ground terminal
92	EVDD	—	I/O power supply (3.1 V)
93	XMWAIT	I	Memory access weight (Pull-up)
94	XMWR	O	Memory write (Not used)
95	GND	—	Ground terminal
96	IVDD	—	Core power supply (1.6 V)
97	XMBSTB	O	Memory bus strobe (Not used)
98	MD0	I/O	Memory data bus (Not used)
99	GND	—	Ground terminal
100	MD3	I/O	Memory data bus (Not used)
101	MD1	I/O	Memory data bus (Not used)
102	MD4	I/O	Memory data bus (Not used)
103	MD5	I/O	Memory data bus (Not used)
104	MD6	I/O	Memory data bus (Not used)

Pin No.	Pin Name	I/O	Description
105	MD2	I/O	Memory data bus (Not used)
106	MD8	I/O	Memory data bus (Not used)
107	GND	—	Ground terminal
108	EVDD	—	I/O power supply (3.1 V)
109	MD7	I/O	Memory data bus (Not used)
110	MD13	I/O	Memory data bus (Not used)
111	MD10	I/O	Memory data bus (Not used)
112	MD11	I/O	Memory data bus (Not used)
113	MD9	I/O	Memory data bus (Not used)
114	MD14	I/O	Memory data bus (Not used)
115	GND	—	Ground terminal
116	MD15	I/O	Memory data bus (Not used)
117	MD12	I/O	Memory data bus (Not used)
118	TICE	O	Test ICE
119	TMS	I	Test mode selection
120	EVDD	—	I/O power supply (3.1 V)
121	GND	—	Ground terminal
122	TDO	O	Test data output
123 to 126	NC	—	Not used
127	XTRST	I	Test reset
128	TCK	I	Test clock input
129	EVDD	—	I/O power supply (3.1 V)
130	IC	—	Internal connection (Not used)
131	TDI	I	Test data input
132	STOPS	O	Stop (Open)
133	CSTOP	I	Clear stop mode (Pull-down) (fixed at “L”)
134	IC	—	Internal connection (Not used)
135	GND	—	Ground terminal
136, 137	PLL0,PLL1	I	PLL rate setting 0 and 1
138	WRSTXRST	I	Reset
139	GND	—	Ground terminal
140	IVDD	—	Core power supply (1.6 V)
141	PLL3	I	PLL rate setting 3
142	HALTS	O	HALT
143	GND	—	Ground terminal
144, 145	IVDD	—	Core power supply (1.6 V)
146	PLL2	I	PLL rate setting 2
147	GND	—	Ground terminal
148	EVDD	—	I/O power supply (3.1 V)
149	CLKOUT	O	Clock output
150	CLKIN	I	Clock input
151	BOOT1	I	Boot mode 1 (fixed at “H”)
152	GND	—	Ground terminal
153	BOOT3	I	Boot mode 3 (fixed at “H”)
154	BOOT0	I	Boot mode 0 (fixed at “L”)
155	GND	—	Ground terminal
156	BOOT2	I	Boot mode 2 (fixed at “H”)
157	FMSCK	I/O	Boot flash ROM serial clock
158	TSIOEN	I	SIO enable

Pin No.	Pin Name	I/O	Description
159	REQ	O	Request
160	FMSDIO	I/O	Boot flash ROM serial data
161 to 164	NC	—	Not used

MAIN Board IC7003 MB91233LLGA-G-109E1 (CPU)

Pin No.	Pin Name	I/O	Description
1	DSPSCK	O	Serial clock output for DSP
2	FLMCLE	O	Command latch enable signal output for FLASH
3 to 10	DATA0 to 7	I/O	Data input/output to FLASH and USB
11	XFLMCS0	O	Chip enable signal output for FLASH
12	DSPSYSCK	O	System clock control signal output for DSP
13	X0A32k	I	32KHz vibration terminal (input) (fixed at “H”)
14	X1A32k	—	32KHz vibration terminal (input)
15	VCC3BCK	—	Internal logic backup voltage terminal
16	VSS	—	Ground terminal
17	VCC3LGC	—	Internal logic voltage terminal
18	BEEP	O	Beep output
19	XFLMWE	O	Write enable signal output for FLASH
20	XFLMRE	O	Read enable signal output for FLASH
21	XFLMALE	O	Address latch enable signal output for FLASH
22	FLMRB	I	Ready/Busy signal input from FLASH
23	XFLMWP	O	Write protect signal output to FLASH
24 to 30	USBADR0 to 6	O	Address signal output to USB control
31	XUSBCS	O	Chip select signal output to USB control
32	XUSBRD	O	Read strobe signal output to USB control
33	XUSBRST	O	Reset signal output to USB control
34	XUSBLWR	O	Low write strobe signal output to USB control
35	XFLMCS1	O	Chip enable signal output for FLASH (Not used)
36	AVCC	—	Analog power supply
37	AVREF	—	Reference voltage terminal
38	AVSS	—	Ground (Analog) terminal
39	BATT	I	Battery voltage detect signal input
40	KEYIN0	I	Key 0 A/D input
41	KEYIN1	I	Key 1 A/D input
42	MICSEL	I	Directivity microphone switch signal input
43	VUPSW	—	Voice up switch signal input
44	XDPCSW	I	DPC switch signal input
45	MICJACK	I	External microphone detect signal input
46	HPJACK	I	Headphone detect signal input
47	VSS	—	Ground terminal
48	AVCC3IO	—	Voltage terminal
49 to 74	SEG0 to 25	O	LCD segment output terminal
75	DVCC	—	Voltage terminal
76	DVSS	—	Ground terminal
77 to 82	SEG26 to 31	O	LCD segment output terminal
83 to 86	COM0 to 3	O	LCD common output terminal
87	MOD2	I	Mode input terminal
88	MOD1	I	Mode input terminal (fixed at “L”)
89	MOD0	I	Mode input terminal (fixed at “L”)
90	XCPURST	I	CPU external reset signal input
91 to 94	LCDV0 to 3	—	LCD reference voltage terminal
95	RX	I	FLASH overwrite RX
96	TX	O	FLASH overwrite TX
97	XFLMPWR	O	FLASH power supply control signal output (L:ON)

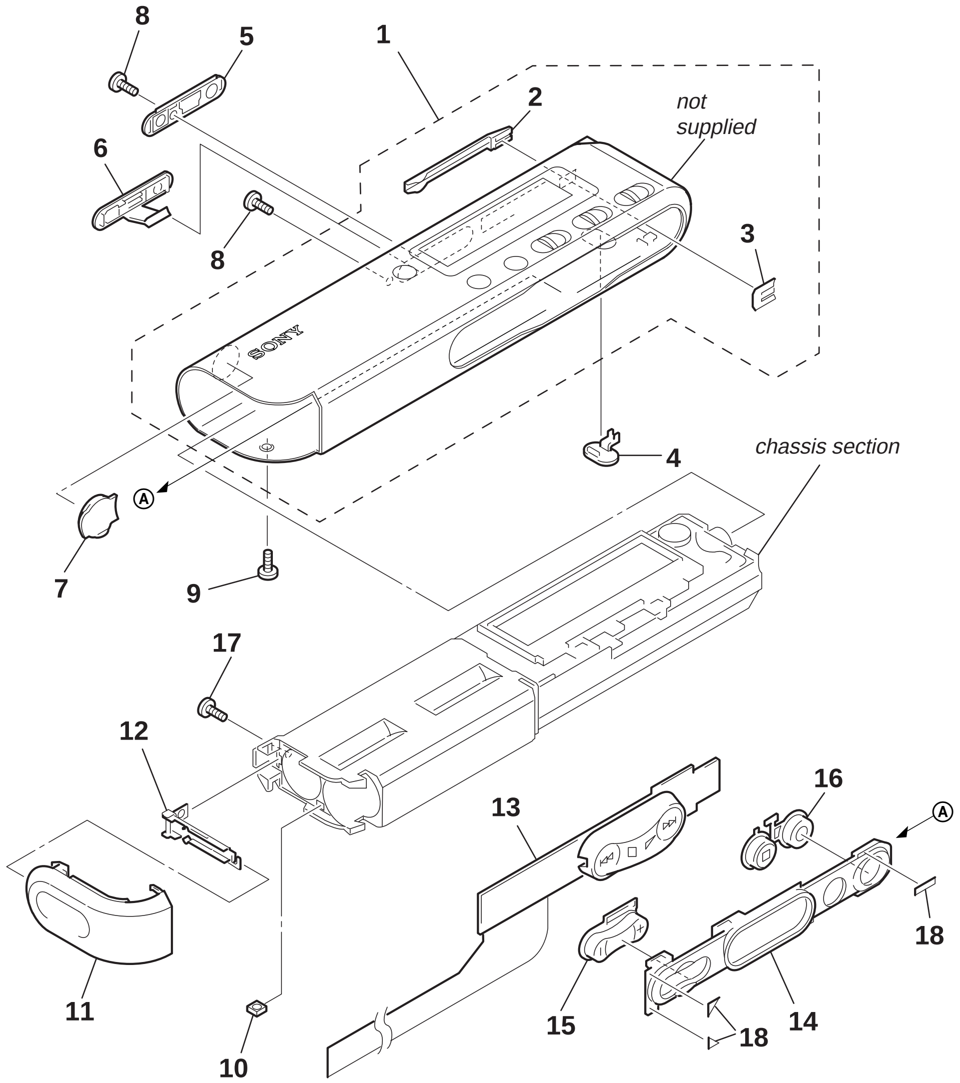
Pin No.	Pin Name	I/O	Description
98	AUSIN	I	Serial data input from RTC
99	AUSOT	O	Serial data output to RTC, ADC and DAC
100	AUSCK	O	Serial clock output to RTC, ADC and DAC
101	RTCCS	O	Chip select signal output to RTC
102	XADACS	O	Chip select signal output to ADC, DAC
103	WAKEUP	I	WAKE UP interrupt input
104	DSPIFREQ	I	DSP I/F interrupt request
105	DVCC	—	Voltage terminal
106	DVSS	—	Ground terminal
107	XTALIN	I	Main vibration terminal (input)
108	XTAL	O	Main vibration terminal (input)
109	XINTUSB	I	USB driver interrupt request input (L:active)
110	XUSBVBUS	I	USB driver VBUS detect interrupt request input
111	XRTCINTR	I	RTC interrupt input
112	HOLDSW	I	Hold switch input (interrupt:on)
113	XDCINDET	I	AC adaptor detect input (interrupt:on)
114	FLM COUNT	I	DIN MUTE interrupt (Not used)
115	SPIDATA	O	Data output to IC7001
116	SPICLK	O	Clock output to IC7001
117	DSPPWR	O	DSP power supply circuit control output
118	DSPSIOEN	O	DSP SIO enable output
119	DSPSIN	I	DSP serial data input
120	DSPSOT	O	DSP serial data output
121	NC	—	Not used
122	VCC3	—	Voltage terminal
123, 124	NC	—	Not used
125	AVRL	—	Ground terminal
126 to 128	NC	—	Not used

SECTION 5
EXPLODED VIEWS

NOTE:

- -XX and -X mean standardized parts, so they may have some difference from the original one.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  CEW : France model
  CND : Canadian model
  CH : Chinese model
  KR : Korean model
  JE : Tourist model

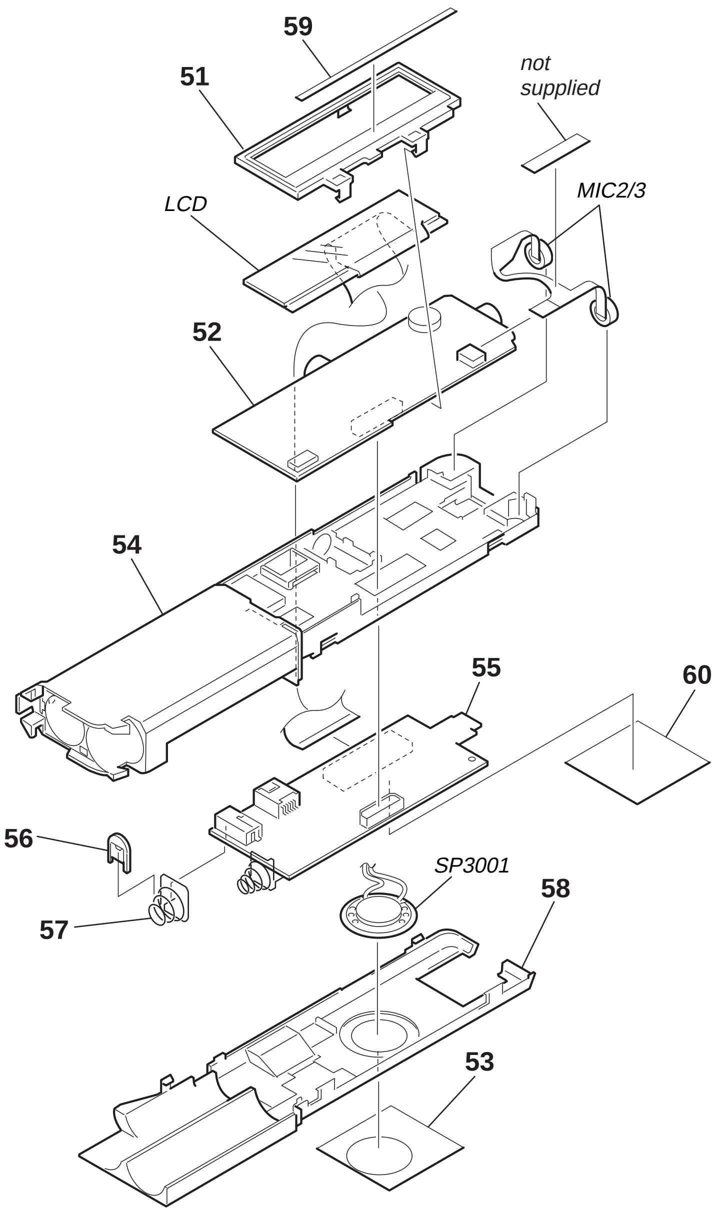
5-1. CASE BLOCK ASSY



Ref. No.	Part No.	Description	Remark
1	A-1149-291-A	CASE BLOCK ASSY (SX46: US, CND, E)	
1	A-1149-437-A	CASE BLOCK ASSY (SX56: AEP, UK)	
1	A-1149-439-A	CASE BLOCK ASSY (SX56: CH, KR)	
1	A-1149-441-A	CASE BLOCK ASSY (SX66)	
1	A-1149-445-A	CASE BLOCK ASSY (SX46: AEP, UK, CEW)	
1	A-1153-520-A	CASE BLOCK ASSY (SX56: E, JE)	
1	A-1159-738-A	CASE BLOCK ASSY (SX46: CH, KR)	
2	3-243-311-01	CLIP	
3	3-243-306-01	BRACKET (CLIP)	
4	2-655-904-01	KNOB (HOLD) (SX46/SX56)	
4	2-655-904-11	KNOB (HOLD) (SX66)	
5	2-655-916-01	COVER (JACK) (US, CND, AEP, JE, CEW)	
5	2-655-916-11	COVER (JACK) (CH, KR)	
6	2-655-917-01	LID (CONNECTOR) (SX46/SX56)	
6	2-655-917-11	LID (CONNECTOR) (SX66)	
7	3-233-058-01	SHAFT (HAND STRAP)	

Ref. No.	Part No.	Description	Remark
8	3-254-014-01	SCREW (SX46/SX56)	
8	3-254-014-11	SCREW (SX66)	
9	3-225-873-25	SCREW (M1.4) (SX46/SX56)	
9	3-225-873-27	SCREW (M1.4) (SX66)	
10	3-221-591-01	NUT (M1.4)	
11	2-655-911-01	LID, BATTERY CASE (SX56)	
11	2-655-911-11	LID, BATTERY CASE (SX66)	
11	2-655-911-21	LID, BATTERY CASE (SX46)	
12	X-3382-358-4	TERMINAL (+/–) ASSY, BATTERY	
13	A-1149-226-A	SW BOARD, COMPLETE (SX66)	
13	A-1157-601-A	SW BOARD, COMPLETE (SX46/SX56)	
14	2-655-910-01	BELT, ORNAMENTAL (SX46/SX56)	
14	2-655-910-11	BELT, ORNAMENTAL (SX66)	
15	2-655-908-01	BUTTON (VOL) (SX46/SX56)	
15	2-655-908-11	BUTTON (VOL) (SX66)	
16	2-655-909-01	BUTTON (RS) (SX46/SX56)	
16	2-655-909-11	BUTTON (RS) (SX66)	
17	3-234-449-09	SCREW (M1.4)	
18	2-655-923-01	SHEET (ORNAMENTAL BELT)	

5-2. CHASSIS BLOCK ASSY



Ref. No.	Part No.	Description	Remark
51	2-655-913-01	HOLDER (LCD)	
52	A-1147-222-A	AUDIO BOARD, COMPLETE	
53	2-655-919-01	SHEET (SPEAKER)	
54	2-655-914-01	CHASSIS	
55	A-1147-228-A	MAIN BOARD, COMPLETE (SX66)	
55	A-1148-737-A	MAIN BOARD, COMPLETE (SX56)	
55	A-1159-734-A	MAIN BOARD, COMPLETE (SX46)	
56	3-250-332-01	CAP (TERMINAL)	

Ref. No.	Part No.	Description	Remark
57	2-655-928-01	TERMINAL (+), BATTERY	
58	2-655-912-01	COVER (CHASSIS)	
59	2-655-920-01	CUSHION (LCD-B)	
60	2-655-921-01	SHEET (MEMORY), INSULATING	
LCD	1-802-005-11	DISPLAY PANEL, LIQUID CRYSTAL	
MIC2/3	1-479-549-11	MICROPHONE UNIT	
SP3001	1-825-993-11	SPEAKER (1.6cm)	

SECTION 6
ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms.
  METAL: Metal-film resistor.
  METAL OXIDE: Metal oxide-film resistor.
  F: nonflammable
- Accessories are given in the last of this parts list.
- CAPACITORS
  uF: μF
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA. . : μA. .   uPA. . : μPA. .
  uPB. . : μPB. .   uPC. . : μPC. .
  uPD. . : μPD. .
- Abbreviation
  CEW : France model
  CND : Canadian model
  CH : Chinese model
  KR : Korean model
  JE : Tourist model

When indicating parts by reference number, please include the board name.

Ref. No.	Part No.	Description			Remark
	A-1147-222-A	AUDIO BOARD, COMPLETE			
		********************			
		< CAPACITOR >			
C1001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1002	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1003	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1004	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C1007	1-218-990-81	SHORT CHIP	0		
C1008	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C1009	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C1010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C1011	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C1012	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C2001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2002	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2003	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2004	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C2007	1-218-990-81	SHORT CHIP	0		
C2008	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C2009	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C2010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C2011	1-127-715-91	CERAMIC CHIP	0.22uF	10%	16V
C2012	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C3001	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3004	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C3005	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C3008	1-218-990-81	SHORT CHIP	0		
C3009	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C3011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3013	1-164-933-11	CERAMIC CHIP	220PF	10%	50V
C3014	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3015	1-125-891-11	CERAMIC CHIP	0.47uF	10%	10V
C3016	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
C3017	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3018	1-113-600-11	TANTAL. CHIP	2.2uF	20%	6.3V
C3019	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3020	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C3021	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3022	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3023	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C3024	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3025	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C3026	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C3027	1-234-939-21	FILTER, EMI REMOVAL (SMD)			
C3028	1-234-939-21	FILTER, EMI REMOVAL (SMD)			
C6001	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C6002	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C6003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C6007	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C6010	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C6014	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
		< CONNECTOR >			
CN3001	1-817-570-21	CONNECTOR, FPC (ZIF) 4P			
CN7003	1-779-665-41	CONNECTOR, BOARD TO BOARD 40P			
CN7005	1-818-537-21	CONNECTOR, FPC (ZIF) 11P			
		< DIODE >			
D7001	6-500-122-01	DIODE CL-375HR/YG-D-TS (OPR)			
		< FERRITE BEAD >			
FB1001	1-469-084-21	FERRITE	0mH		
FB1002	1-469-084-21	FERRITE	0mH		
FB2001	1-469-084-21	FERRITE	0mH		
FB2002	1-469-084-21	FERRITE	0mH		
FB3001	1-469-084-21	FERRITE	0mH		
FB3002	1-469-084-21	FERRITE	0mH		
FB3004	1-400-050-11	INDUCTOR, FERRITE BEAD			
FB3005	1-400-050-11	INDUCTOR, FERRITE BEAD			
FB3006	1-400-050-11	INDUCTOR, FERRITE BEAD			
		< IC >			
IC3001	6-703-074-01	IC XC6204B252MR			
IC3003	6-707-089-01	IC MM3111AWLE			
IC3004	6-708-899-01	IC AK4569VN-L			
IC3005	6-705-673-01	IC TC7PA53FU (TE85L.F)			
IC6001	6-803-583-01	IC uPD77213F1-101-DA2			
IC6002	6-708-624-01	IC M25P10-AVMN6TP			
IC6003	6-703-867-01	IC NJU6366AF1 (TE1)			
IC6004	8-759-058-58	IC TC7S04FU (TE85R)			
		< JACK >			
J3001	1-818-048-11	JACK (SMALL TYPE) (MIC/PLUG IN POWER)			
J3002	1-817-346-21	JACK (🎧)			
		< MICROPHONE >			
MIC301	1-542-661-11	MICROPHONE, ELECTRET CAP			
		< TRANSISTOR >			
Q3003	6-550-859-01	TRANSISTOR	NTHD4508NT1G		

AUDIO **MAIN**

Ref. No.	Part No.	Description			Remark
		< RESISTOR >			
R1001	1-218-941-81	RES-CHIP	100	5%	1/16W
R1007	1-218-941-81	RES-CHIP	100	5%	1/16W
R1008	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R1009	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1010	1-220-803-81	RES-CHIP	4.7	5%	1/16W
R1011	1-244-161-81	RES-CHIP	2.2	5%	1/16W
R1012	1-218-953-11	RES-CHIP	1K	5%	1/16W
R1013	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R1014	1-218-990-81	SHORT CHIP	0		
R1015	1-218-990-81	SHORT CHIP	0		
R2001	1-218-941-81	RES-CHIP	100	5%	1/16W
R2007	1-218-941-81	RES-CHIP	100	5%	1/16W
R2008	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R2009	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2010	1-220-803-81	RES-CHIP	4.7	5%	1/16W
R2011	1-244-161-81	RES-CHIP	2.2	5%	1/16W
R2012	1-218-953-11	RES-CHIP	1K	5%	1/16W
R2013	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R2014	1-218-990-81	SHORT CHIP	0		
R2015	1-218-990-81	SHORT CHIP	0		
R3001	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3002	1-218-990-81	SHORT CHIP	0		
R3003	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3004	1-218-941-81	RES-CHIP	100	5%	1/16W
R3011	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3013	1-218-979-11	RES-CHIP	150K	5%	1/16W
R3014	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3015	1-218-969-11	RES-CHIP	22K	5%	1/16W
R3016	1-218-945-11	RES-CHIP	220	5%	1/16W
R3017	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3018	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3020	1-218-929-11	RES-CHIP	10	5%	1/16W
R3021	1-218-981-11	RES-CHIP	220K	5%	1/16W
R3022	1-218-990-81	SHORT CHIP	0		
R3023	1-218-985-11	RES-CHIP	470K	5%	1/16W
R3025	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R3026	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R3027	1-218-965-11	RES-CHIP	10K	5%	1/16W
R3028	1-218-945-11	RES-CHIP	220	5%	1/16W
R3029	1-218-973-11	RES-CHIP	47K	5%	1/16W
R3030	1-218-977-11	RES-CHIP	100K	5%	1/16W
R3031	1-218-990-81	SHORT CHIP	0		
R3032	1-218-941-81	RES-CHIP	100	5%	1/16W
R6001	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6002	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6003	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6004	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6005	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6006	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6007	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6008	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6009	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6010	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6011	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6012	1-218-985-11	RES-CHIP	470K	5%	1/16W
R6013	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6014	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6015	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6016	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6017	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6018	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6019	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6020	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6021	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6022	1-218-937-11	RES-CHIP	47	5%	1/16W
R6023	1-218-937-11	RES-CHIP	47	5%	1/16W
R6025	1-218-990-81	SHORT CHIP	0		
R6026	1-218-977-11	RES-CHIP	100K	5%	1/16W
R6027	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7002	1-218-949-11	RES-CHIP	470	5%	1/16W
R7003	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R7051	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R7052	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB6001	1-233-973-11	RES, NETWORK (CHIP TYPE)	100K		
RB6002	1-233-973-11	RES, NETWORK (CHIP TYPE)	100K		
		< SWITCH >			
S7002	1-786-515-21	SWITCH, TACTILE (A-B↻ /PRIORITY)			
S7003	1-786-515-21	SWITCH, TACTILE (DIVIDE)			
S7004	1-786-638-21	SWITCH, TACTILE (ERASE)			
		< VIBRATOR >			
X6001	1-813-165-21	VIBRATOR, CRYSTAL 11.2896MHz			

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Ref. No.	Part No.	Description			Remark
	A-1147-228-A	MAIN BOARD, COMPLETE (SX66)			
	A-1148-737-A	MAIN BOARD, COMPLETE (SX56)			
	A-1159-734-A	MAIN BOARD, COMPLETE (SX46)			
		*********************			
	2-655-927-01	TERMINAL (–), BATTERY			
		< CAPACITOR >			
C5001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5003	1-137-934-91	TANTAL. CHIP	47uF	20%	10V
C5004	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5005	1-117-919-11	TANTAL. CHIP	10uF	20%	6.3V
C5006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5007	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C5009	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5011	1-164-858-11	CERAMIC CHIP	22PF	5%	50V
C5012	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C5014	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V
C5016	1-135-993-11	TANTAL. CHIP	33uF	20%	10V
C5017	1-137-934-91	TANTAL. CHIP	47uF	20%	10V
C5018	1-137-934-91	TANTAL. CHIP	47uF	20%	10V
C5020	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5021	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C5022	1-131-860-91	TANTAL. CHIP	4.7uF	20%	10V
C7001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7003	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V

Ref. No.	Part No.	Description			Remark
C7004	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7005	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7009	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7010	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7011	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7012	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7013	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7014	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7015	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7016	1-137-934-91	TANTAL. CHIP	47uF	20%	10V
C7017	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7018	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7019	1-164-931-11	CERAMIC CHIP	100PF	10%	50V
C7020	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C7021	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C7022	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
C7023	1-164-943-81	CERAMIC CHIP	0.01uF	10%	16V
C8001	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8002	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8003	1-164-856-81	CERAMIC CHIP	18PF	5%	50V
C8004	1-164-937-11	CERAMIC CHIP	0.001uF	10%	50V
C8005	1-164-856-81	CERAMIC CHIP	18PF	5%	50V
C8006	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8007	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C8009	1-131-860-91	TANTAL. CHIP	4.7uF	20%	10V
C8010	1-125-837-91	CERAMIC CHIP	1uF	10%	6.3V
		< CONNECTOR >			
CN7001	1-815-153-11	CONNECTOR (USB) 5P ( )			
CN7002	1-817-990-21	CONNECTOR, FPC (ZIF) 36P			
CN7004	1-817-991-21	CONNECTOR, BOARD TO BOARD 40P			
		< DIODE >			
D5002	8-719-075-93	DIODE MA2ZD02001SO			
D5003	8-719-081-34	DIODE RB160M-30TR			
D5004	8-719-081-34	DIODE RB160M-30TR			
D5005	8-719-075-93	DIODE MA2ZD02001SO			
D5007	8-719-056-59	DIODE MAZS120008SO			
D5009	8-719-056-59	DIODE MAZS120008SO			
D7004	8-719-016-74	DIODE 1SS352-TPH3			
D8001	8-719-069-29	DIODE RB520S-30TE61			
D8002	8-719-016-74	DIODE 1SS352-TPH3			
		< FERRITE BEAD >			
FB7001	1-500-282-11	INDUCTOR, FERRITE BEAD			
FB7002	1-500-282-11	INDUCTOR, FERRITE BEAD			
		< IC >			
IC5001	6-703-864-01	IC R1160N291B-TR-FA			
IC5002	6-705-321-01	IC S1F77600M0A000L			
IC5003	6-703-860-01	IC XC9502B092AR			
IC5005	6-703-865-01	IC XC61CS23XXNR			
IC7001	8-759-670-89	IC BU2090FS-E2			
IC7002	6-707-830-01	IC K04SONY95 (SX66)			
IC7002	6-708-162-01	IC K05SONY03 (SX56)			
IC7002	6-708-487-01	IC NAND01GW3B2AN6F (SX46)			

Ref. No.	Part No.	Description			Remark
IC7003	6-806-071-01	IC MB91233LLGA-G-109E1			
IC7004	6-703-861-01	IC RX-4591CF			
IC7005	6-701-736-01	IC R3130N28EA-TR			
IC8001	6-702-098-01	IC M66291GP-2			
IC8003	6-704-146-01	IC XC62FP3502MR			
		< JACK >			
J5001	1-794-615-11	JACK, DC (POLARITY UNIFIED TYPE) (DC IN 3V ⊖-●-⊕)			
		< COIL >			
L5001	1-456-159-11	INDUCTOR	22uH		
L5002	1-456-159-11	INDUCTOR	22uH		
		< TRANSISTOR >			
Q5001	6-550-747-01	TRANSISTOR	3LP01S-K-TL-E		
Q5002	8-729-053-03	TRANSISTOR	XP151A12A2MR		
Q5003	8-729-051-50	TRANSISTOR	XP152A12C0MR		
Q5005	8-729-927-99	TRANSISTOR	2SC4617TL-QR		
Q5006	8-729-044-37	TRANSISTOR	2SK3019TL		
Q5007	8-729-041-23	TRANSISTOR	NDS356AP		
Q5009	6-551-064-01	TRANSISTOR	TPCF8201 (T5RSONY.F)		
Q5010	8-729-044-37	TRANSISTOR	2SK3019TL		
Q5011	6-550-747-01	TRANSISTOR	3LP01S-K-TL-E		
Q5012	8-729-044-37	TRANSISTOR	2SK3019TL		
Q5013	6-550-861-01	TRANSISTOR	NTHS2101PT1G		
Q7001	8-729-041-23	TRANSISTOR	NDS356AP		
Q7002	6-550-747-01	TRANSISTOR	3LP01S-K-TL-E		
Q7003	6-550-747-01	TRANSISTOR	3LP01S-K-TL-E		
Q7004	8-729-042-72	TRANSISTOR	UN9214J-(K8).SO		
Q7005	8-729-042-72	TRANSISTOR	UN9214J-(K8).SO		
		< RESISTOR >			
R3024	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5001	1-208-935-11	METAL CHIP	100K	0.5%	1/16W
R5002	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R5003	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5004	1-218-990-81	SHORT CHIP	0		
R5005	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5006	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R5007	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R5008	1-208-955-11	METAL CHIP	680K	0.5%	1/16W
R5009	1-218-985-11	METAL CHIP	470K	0.5%	1/16W
R5010	1-208-939-11	METAL CHIP	150K	0.5%	1/16W
R5011	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R5012	1-208-947-11	METAL CHIP	330K	0.5%	1/16W
R5013	1-218-953-11	RES-CHIP	1K	5%	1/16W
R5014	1-218-977-11	RES-CHIP	100K	5%	1/16W
R5015	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5016	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5017	1-218-989-11	RES-CHIP	1M	5%	1/16W
R5021	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5022	1-218-985-11	RES-CHIP	470K	5%	1/16W
R5024	1-220-804-11	RES-CHIP	2.2M	5%	1/16W
R5025	1-218-989-11	RES-CHIP	1M	5%	1/16W
R7001	1-218-989-11	RES-CHIP	1M	5%	1/16W
R7004	1-218-990-81	SHORT CHIP	0		

MAIN **SW**

Ref. No.	Part No.	Description			Remark
R7006	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R7007	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R7008	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R7009	1-218-989-11	RES-CHIP	1M	5%	1/16W
R7010	1-218-965-11	RES-CHIP	10K	5%	1/16W
R7011	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7012	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7013	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7014	1-208-911-11	METAL CHIP	10K	0.5%	1/16W
R7015	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7016	1-218-981-11	RES-CHIP	220K	5%	1/16W
R7017	1-218-990-81	SHORT CHIP	0		
R7019	1-218-990-81	SHORT CHIP	0		
R7020	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7022	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7023	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7025	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7027	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7028	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7029	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7030	1-218-941-81	RES-CHIP	100	5%	1/16W
R7031	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7032	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7033	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7034	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7037	1-218-990-81	SHORT CHIP	0		
R7038	1-218-977-11	RES-CHIP	100K	5%	1/16W
R7039	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7040	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7041	1-218-990-81	SHORT CHIP	0		
R7042	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7043	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7044	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7045	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7046	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7047	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7048	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7050	1-218-953-11	RES-CHIP	1K	5%	1/16W
R7053	1-218-985-11	RES-CHIP	470K	5%	1/16W
R7054	1-218-953-11	RES-CHIP	1K	5%	1/16W
R8001	1-218-985-11	RES-CHIP	470K	5%	1/16W
R8002	1-218-985-11	RES-CHIP	470K	5%	1/16W
R8003	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8004	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8005	1-218-985-11	RES-CHIP	470K	5%	1/16W
R8006	1-218-989-11	RES-CHIP	1M	5%	1/16W
R8007	1-218-985-11	RES-CHIP	470K	5%	1/16W
R8009	1-218-945-11	RES-CHIP	220	5%	1/16W
R8010	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8011	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8012	1-218-977-11	RES-CHIP	100K	5%	1/16W
R8013	1-218-957-11	RES-CHIP	2.2K	5%	1/16W
R8015	1-218-933-11	RES-CHIP	22	5%	1/16W
R8016	1-218-933-11	RES-CHIP	22	5%	1/16W
R8020	1-242-967-81	RES-CHIP	1	5%	1/16W
R8021	1-218-961-11	RES-CHIP	4.7K	5%	1/16W
R8022	1-218-949-11	RES-CHIP	470	5%	1/16W

Ref. No.	Part No.	Description			Remark
		< SWITCH >			
S7001	1-572-922-11	SWITCH, SLIDE (HOLD ➞)			
		< TRANSFORMER >			
T5001	1-416-405-21	FILTER, CHIP EMI (COMMON MODE)			
		< THERMISTOR >			
TH5001	1-805-762-11	THERMISTOR, POSITIVE			
		< VIBRATOR >			
X7001	1-795-977-21	VIBRATOR, CERAMIC 4.096MHz			
X8001	1-813-164-21	VIBRATOR, CRYSTAL 12MHz			

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Ref. No.	Part No.	Description			Remark
	A-1149-226-A	SW BOARD, COMPLETE (SX66)			
	A-1157-601-A	SW BOARD, COMPLETE (SX46/SX56)			
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	1-860-643-13	SW FLEXIBLE BOARD			
	2-655-905-01	BUTTON (5D) (SX46/SX56)			
	2-655-905-11	BUTTON (5D) (SX66)			
		< CAPACITOR >			
C901	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
C902	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V
		< RESISTOR >			
R901	1-208-691-11	METAL CHIP	2.2K	0.5%	1/16W
R902	1-208-695-11	METAL CHIP	3.3K	0.5%	1/16W
R903	1-208-699-11	METAL CHIP	4.7K	0.5%	1/16W
R904	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
R905	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R907	1-208-683-11	METAL CHIP	1K	0.5%	1/16W
R908	1-208-715-11	METAL CHIP	22K	0.5%	1/16W
R909	1-208-923-11	METAL CHIP	33K	0.5%	1/16W
		< SWITCH >			
S901	1-771-844-21	SWITCH, TACTILE (SMD) (VOL+)			
S902	1-771-844-21	SWITCH, TACTILE (SMD) (VOL–)			
S903	1-771-844-21	SWITCH, TACTILE (SMD) (■ STOP)			
S904	1-771-844-21	SWITCH, TACTILE (SMD) (● REC/REC PAUSE)			
S905	1-786-294-61	SWITCH, MULTIPLE FUNCTION (FOLDER/MENU/⏮/■•▶/⏭)			
S906	1-572-922-11	SWITCH, SLIDE (VOICE UP)			
S907	1-572-922-11	SWITCH, SLIDE (DIRECTNL)			
S908	1-572-922-11	SWITCH, SLIDE (DPC)			

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MISCELLANEOUS
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Ref. No.	Part No.	Description
LCD	1-802-005-11	DISPLAY PANEL, LIQUID CRYSTAL
MIC2/3	1-479-549-11	MICROPHONE UNIT
SP3001	1-825-993-11	SPEAKER (1.6cm)

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Ref. No.	Part No.	Description	Remark
		ACCESSORIES ***********	
	1-829-882-12	CORD, CONNECTION (USB)	
	2-585-845-01	CASE, CARRYING	
	2-655-345-12	MANUAL, INSTRUCTION (ENGLISH)	
	2-655-345-21	MANUAL, INSTRUCTION (FRENCH) (CND, AEP, CEW)	
	2-655-345-31	MANUAL, INSTRUCTION (SPANISH) (AEP, E)	
	2-655-345-41	MANUAL, INSTRUCTION (DUTCH) (AEP)	
	2-655-345-51	MANUAL, INSTRUCTION (SWEDISH) (AEP)	
	2-655-345-61	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
	2-655-345-71	MANUAL, INSTRUCTION (GERMAN) (AEP)	
	2-655-345-81	MANUAL, INSTRUCTION (ITALIAN) (AEP)	
	2-655-345-91	MANUAL, INSTRUCTION (RUSSIAN) (AEP)	
	2-655-348-11	INSTRUCTION (Guide for Voice Recognition) (ENGLISH) (US, AEP, UK, CEW)	
	2-655-348-21	INSTRUCTION (Guide for Voice Recognition) (FRENCH, SPANISH) (CND, AEP, CEW)	
	2-655-348-31	INSTRUCTION (Guide for Voice Recognition) (GERMAN, DUTCH) (AEP)	
	2-655-348-41	INSTRUCTION (Guide for Voice Recognition) (ITALIAN) (AEP)	
	2-655-350-11	MANUAL, INSTRUCTION(Digital Voice Editor 2.40)(ENGLISH) (EXCEPT CH)	
	2-655-350-21	MANUAL, INSTRUCTION(Digital Voice Editor 2.40) (TRADITIONAL CHINESE) (E, JE)	
	2-655-350-31	MANUAL, INSTRUCTION (Digital Voice Editor 2.40) (SIMPLIFIED CHINESE) (E, JE)	
	2-655-350-41	MANUAL, INSTRUCTION (Digital Voice Editor 2.40) (KOREAN) (E, KR, JE)	
	2-655-350-51	MANUAL, INSTRUCTION (Digital Voice Editor 2.40) (FRENCH, SPANISH) (CND, AEP, E, CEW)	
	2-655-350-61	MANUAL, INSTRUCTION (Digital Voice Editor 2.40) (GERMAN, PORTUGUESE) (AEP)	
	2-655-350-71	MANUAL, INSTRUCTION (Digital Voice Editor 2.40) (DUTCH, SWEDISH) (AEP)	
	2-655-350-81	MANUAL, INSTRUCTION (Digital Voice Editor 2.40) (ITALIAN, POLISH) (AEP)	
	2-655-350-91	MANUAL, INSTRUCTION (Digital Voice Editor 2.40) (RUSSIAN) (AEP)	
	2-655-354-12	APPLICATION (CD-ROM) (EXCEPT CH)	
	2-655-354-21	APPLICATION (CD-ROM) (CH)	
	2-656-636-11	MANUAL (Digital Voice Editor 2.40), INSTRUCTION (ENGLISH) (CH)	
	2-656-636-21	MANUAL (Digital Voice Editor 2.40), INSTRUCTION (SIMPLIFIED CHINESE) (CH)	
	2-656-638-11	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (E, JE)	
	2-656-638-21	MANUAL, INSTRUCTION (TRADITIONAL CHINESE) (E, JE)	
	2-656-638-31	MANUAL, INSTRUCTION (KOREAN) (E, JE)	
	2-656-638-41	MANUAL, INSTRUCTION (PORTUGUESE) (AEP)	
	2-656-639-11	MANUAL, INSTRUCTION (SIMPLIFIED CHINESE) (CH)	
	2-656-639-21	MANUAL, INSTRUCTION (KOREAN) (KR)	
	8-954-008-92	RECEIVER, EAR MDR-E808LP/C SET (EXCEPT CEW)	

REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.0	2005.11	New
1.1	2006.01	Addition of US model for ICD-SX46 Addition of AEP, UK and E models for ICD-SX46/SX56
1.2	2006.03	Addition of Canadian model for ICD-SX46
1.3	2006.06	Addition of France model for ICD-SX46